0036848 7 of 27 **94535490** 94524750 ATTACHMENT 43

Page 1 of 18

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION SUMMARY FOR DATA PACKAGE: 9401L205-WES-1478 (923-E418)

TO: 200-UP-2 Project QA Record

April 23, 1994

FR: Sandra Schildt, Golder Associates Inc.

RE: GENERAL CHEMISTRY ANALYSIS DATA VALIDATION SUMMARY FOR DATA

PACKAGE 9401L205-WES-1478 (923-E418)

INTRODUCTION

This memorandum presents the results of data validation on data package 9401L205-WES-1478 prepared by Roy F. Weston, Inc (Weston). A list of the samples validated along with the analyses reported and the method of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	analysis
B09DT0	1/06/94	SOIL	SEE NOTE 1

Note 1: Samples were analyzed for IC anions and nitrate-nitrite using WHC approved methods.

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 to this memo provide the following information:

Attachment 1. Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

This section presents a summary of the data quality in terms of the referenced validation criteria.

Precision. Goals for precision were met.

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met for all sample results as specified in the reference analytical method.

Completeness. The data package was complete for all requested analyses. One sample (1) was validated in this data set with a total of 6 determinations reported, all of which were deemed

Revised 18 001

valid. This results in a completeness of 100 percent which meets normal work plan objectives of 90%.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

No minor deficiencies were identified during data validation which required qualification of the data.

REFERENCES

WHC 1993a, Validation of 200-UP-2 Data, Statement of Work, Analytical Laboratory Data Validation Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993. Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 1

—GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF INORGANIC DATA REPORTING QUALIFIERS

- B Indicates the constituent was analyzed for and detected. The concentration reported is less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL). The associated data should be considered usable for decision making purposes.
- U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample detection limit corrected for sample aliquot size, dilution factors and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ Indicates the constituent was analyzed for and was not detected. Due to a minor quality control deficiency identified during data validation, the concentration reported may not accurately reflect the sample detection limit. The associated data have been qualified as estimated but should be considered usable for decision making purposes.
- BJ Indicates the constituent was analyzed for and detected at a concentration less than the CRDL but greater then the IDL. Due to a minor quality control deficiency identified during data validation, The associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- J. Indicates the constituent was analyzed for and detected. Due to a minor quality control deficiency identified during data validation the associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- UR Indicates the constituent was analyzed for and not detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.
- R Indicates the constituent was analyzed for and detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.

ATTACHMENT 2 SUMMARY OF DATA QUALIFICATIONS

DATA QUALIFICATION SUMMARY

SBG:	VALIDATOR:	DATE: /3/94/	PAGE/_OF/
COMMENTS: (1)27	Chemistry	1 3/3/ /9/	
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
No ana	Elicatur	required	
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ATTACHMENT 3

QUALIFIED DATA SUMMARY AND ANNOTATED LABORATORY REPORTS

Validated Data Summary, Data Package: 9401L205-WES-1478

	Samp# Date Location Depth Type Comments	B09DT0 1-6-94	• • •
Parameter	Units	Result	0
PERCENT SOLIDS	×	98.200	
CHLORIDE	MG/KG	21.700	
* FLUORIDE	MG/KG	. 3.000	
CYANIDE	MG/KG	1.000	U
SULFATE	MG/KG	12.200	
NITRATE+NITRITE	MG-N/KG	61.400	

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 02/02/94

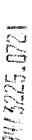
CLIENT: WESTINGHOUSE HANFORD WORK ORDER: 06168-002-001-9999-00 WESTON BATCH #: 9401L205

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
		238 02222222222222222		*****		******
-881 -	BOSDTO	¥ Solids	98.2	¥	0.10	1.0
		Chloride by IC	21.7	MG/KG	1.3	1.0
		Fluoride by IC	3.0 -	MG/KG	2.5	1.0
		Cyanide, Total	1.0 ′ u	MG/KG	1.0	1.0
		Sulfate by IC	12.2~	MG/KG	1.3	1.0
mark Tr		Nitrate Nitrite	61.47	MG-N/KG	5.1	50.0

Vinhad 3/3/44

ATTACHMENT 4

LABORATORY NARRATIVE AND CHAIN-OF-CUSTODY DOCUMENTATION





ROY F. WESTON, INC. LIONVILLE ANALYTICAL LABORATORY ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD

W.O. #: 06168-002-001-9999-00

RFW#: 9401L205

Date Received: 01-11-94

INORGANIC

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

- 1. All sample holding times as required by 40CFR136 were met.
- 2. All preparation blank results were below the required detection limits.
- 3. All laboratory control standards (blank spikes) were within the control limits of 80-120%. All %RPD were within the 20% guidance limit.
- 4. All calibration verification checks were within the required control limits of 90-110%. Calibration verification is performed using independent standards.
- 5. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limits. All %RPD were within the 20% guidance limit.
- 6. Replicate results are summarized on the Inorganic Precision Report contained within this document. All results were within the 20% RPD guidance limit.

7. The analytical methods applied by the laboratory, unless otherwise requested, for the analysis of solid samples are derived from <u>Test Methods for Evaluating Solid Waste</u> (USEPA SW846).

RECORD COPY

J. Peter Hershey, Ph.D

Laboratory-Manager

Lionville Analytical Laboratory

Date

HAR 1994
RECEIVED
SDLA

1 2 3 1 1/2/24

pas/i01-205

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Wes	ting.	house
Hanf	ord	Company

CHAIN OF CUSTODY

<u> </u>		Final Sample D	15POS1T1ON	
FLIDEX		Final Samuel	1-11-94	9/30
Relinquished by	·: 2)	Received by:	Date/Time:	
W.V.	Sely.	7.0	vale///me:	
Relinguished b	201 -2 0715	Received by:	1-10-94 Date/Time:	0715
Relinquished by		Received by:	Date/Time:	/ 5715
14.0. S	type 1.1.94	Joins Boar	012 1-6-94	1115
Relinguished by	"A 1115	Received by:	Date/Time:	111
	109) Se-79 Transfer of Custody	Chain of Poss) Tc-99 (PRO-032-78) Am-241,Cm-2	(Sign and Print Nam
	:U-154_Ev-155_K-4D_Ru-1	196.Wa=ZZ (PRO=D42-5)U=23!	include,Cs-134,Cs-137,Co-60,Eu- 5,U-234,U-238 (PRO-052-32) Np-23	7 (DDD-042-5) Pm-328 Pm-
1,250ml	P/G:Anions NO2,NO3 (El G:Cyanide CLP	•	·	
1,500ml 1,250ml	G:Anions F,Cl,S04 (_
1,500ml 1,125ml		,Ti	Ta	
)			10.0	
	u-154,Eu-155,K-40,Ru-	106,Na-22 (PRQ-042-5). U-23	5,U-234,U-238 (PRO-052-32) Np-23) Tc-99 (PRO-032-78) Am-241,Cm-2	7 (PPO+042-5) Pul-278 Pul-
1,250ml	G:Cyanide CLP		include, Cs-134, Cs-137, Co-60, Eu-	157
1,500ml 1,250ml 1,125mi	G:Antone F,Cl,504 (P/G:Antons NOZ,NO3 (E			
1,500ml 1,125ml	P:CLP;TAL Metals,Hg Gs:VOA CLP	,Ii		
)	109) Se-79	31-70 (PRU-U32-30,PRU-U32-2	5) Tc-99 (PRO-032-78) Am-241,Cm-	244 (PRO-052-32 or PRO-06
	P/G:Gross alpha/beta (Eu-154,Eu-155,K-40,Ru	r-106.Na-22 (PRO-042-5). U-2	include,Cs-134,Cs-137,Co-60,Eu- 35,U-234,U-238 (PRO-052-32) Np-2	37 (PRO-042-5) Pu-238 bu
1,250ml 1,125ml 1,250ml	G:Anions F,Cl,SO4 (P/G:Anions NO2,NO3 (E G:Cyanide CLP			
	GS:VOA CLP aG:Semi-VOA CLP	, Ti Did not Peck GALA.	πų	
) BO987				
, 0331DIC 3BHDE	The state of the s	Sample Ident		205-001
Shipped to	WESTON Hazards/Remarks Ke	ep samples at 4C (S	OIL) RADITACT	115
Method of Ship	•	IR SERVICE	_	·
Bill-of Lading	/Airbill No.	7	Dffsite Property No	2555 18301
lce Chest No.	- EF-11		_ Collection Date _ _ Field Logbook No.	_EFL-1091
rioject besign				
Company Contac Project Design	t <u>L E ROGERS</u> ation/Sampling Locatio	ns 200-UP-2		1.6.94

ATTACHMENT 5 DATA VALIDATION SUPPORTING DOCUMENTATION

	GENERAL	CHEMISTRY DAT	TA VALIDATION	CHECKLIST	Tilby
VALIDATION LEVEL:	A.	В -	C -	1	E
PROJECT:	200-41	2-2	DATA PACKAG	E: 9401203	T-WES-1478
VALIDATOR:	1 7.00	LAB: Colo		DATE: 3/3	1/94
CASE: /	VA		SDG: NA	7	
		ANALYSES	PERFORMED		
D Anions/IC	□тос	□ тох	☐ TPH-418.1	Oil and Grease	Alkalinity
☐ Ammonie	□ BOD/COD	□ Chloride	□ Chromium-VI	□ pH	⊠′NO,NO,
☐ Sulfate	□ TDS	ר דאו	☐ Phosphate	E / selection	0
	0				
Is technica	CKAGE COMPLETER l verification arrative presen	documentatio	n present? .		Yes No N// Yes No N//
2. HOLDING Are sample I	TIMES nolding times a	acceptable?			Yes No N/A

WHC-SD-EN-SPP-002, Rev. 2

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

3. INSTRUMENT CALIBRATION		
Was initial calibration performed for all applicable analyses? Yes	No	N/A
Are initial calibration results acceptable? Yes	No	N/A
Was a calibration check performed for all applicable analyses? (Yes	No	N/A
Are calibration check results acceptable? Yes	No	N/A
Comments:		
4. BLANKS		
Were laboratory blanks analyzed? Yes	No	N/A
Are laboratory blank results acceptable? Yes	No-	TN/A
Were field/trip blanks analyzed? Yes	No	N/A
Are field/trip blank results acceptable? Yes	No	(N/A)
Comments: Amele information was not granded		
OC will be reviewed in the own		
And the second second	7.3	
v v		
5. ACCURACY		
Were spike samples analyzed at the required frequency? Yes	No	N/A
Are spike recoveries acceptable? Yes	No	N/A
Were LCS analyses performed at the required frequency? Yes	No	N/A
Are LCS recoveries acceptable? Yes	No	N/A
Comments:	110	,
6. PRECISION		
Were laboratory duplicate samples analyzed		
Are-laboratory duplicate sample RPD values acceptable?	No	N/A
	No	N/A
Are field duplicate RPD values acceptable? Yes	No	NZA)
Are field split RPD values acceptable? Yes	No	(N/A)

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

ربر (۱۱۱۱۱) ت	en ca : A		<u> </u>	her	nia ca-		<u>ر ن سنتی</u> دسور	<u> Pei e</u> p	7	23		برسب	<u> </u>	7.7.6	مرسمار
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				D DETECT			_								
				r all re											N/
				n the ra											N/
Are :	results	Calcu	lated	properly	!?	• • • •	• •	•	• •	•	• •	- (Yes	No	N/
				Ls?	• • •		• •	•		•		• (<u>Ý</u> es	No	N/
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HOLDING TIME SUMMARY

PKC 800: 94011,205	5-WES-1478	VALIDATOR:	S. John	6/4	DATE: 3/3/hu	PAG	SE/_OF/_
COMMENTS: C	viet ch	consistry	· · ·			1	
FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOPATO	SIC-SOY.CI.F	1/4/94	1/18/94	1/18/94	12	12	evene
	CN		1/13/94	1/13/94	7	2	none
	Noa /Non		1/24/94	1/26/94	20	20	inous
1	Todolida	1	1/13/94	1/14/94		7	none
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9452475D ATTACHMENT 44 Page 1 of (26

METALS ANALYSIS DATA VALIDATION SUMMARY FOR DATA PACKAGE: 9401L205-WES-1478 (923-E418)

MEMORANDUM



TO: 200-UP-2 Project QA Record

April 12, 1994

FR: Sandra Schildt, Golder Associates Inc.

RE: METALS ANALYSIS DATA VALIDATION SUMMARY FOR DATA PACKAGE 9401L205-

WES-1478 (923-E418)

INTRODUCTION

This memorandum presents the results of data validation on data package 9401L205-WES-1478 prepared by Roy F. Weston, Inc. (Weston). A list of the samples validated along with the analytes reported and the method of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSIS
B09DT0	1/06/94	SOIL	SEE NOTE 1

Note 1: -All samples were analyzed for CLP Target Analyte List (TAL) metals, cyanide, and titanium.

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 to this memo provide the following information:

Attachment 1. Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

A-non-conformance report and record of disposition accompanied the metals fraction and are included in-Attachment 4.—No qualification of data was made due to the non-conformance.

DATA QUALITY OBJECTIVES

This section presents a summary of the data quality in terms of the referenced validation criteria.

Precision. Goals for precision were met with the exception of the minor deficiencies identified below.

Accuracy. Goals for accuracy were met with the exception of the minor deficiencies identified below.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met for all analyses.

Completeness. The data package was complete for all requested analyses. One sample (1) was validated in this data set with a total of 25 determinations reported, all of which were deemed valid. This results in a completeness of 100 percent which meets normal work plan objectives of 90%.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of the data as unusable.

MINOR DEFICIENCIES

The following is a summary of the minor deficiencies identified during validation which required qualification of data.

Laboratory Blanks

Positive Blanks. Antimony was detected at a positive concentration in the preparation blanks. Attachment 2 provides a summary of the samples and data qualification applied.

Laboratory Spikes

Analytical spike recovery was unacceptable for arsenic. Attachment 2 and 5
provide a summary of the samples, data qualifications applied and supporting
documentation.

Serial Dilution

The percent difference (%D) of the ICP serial dilution was unacceptable for zinc. Attachment 2 provides a summary of the samples and data qualification applied.

REFERENCES

WHC 1993a, Validation of 200-UP-2 Data, Statement of Work, Analytical Laboratory Data Validation Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993, Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 1 GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF INORGANIC DATA REPORTING QUALIFIERS

- B Indicates the constituent was analyzed for and detected. The concentration reported is less than the contract required detection limit (CRDL) but greater then the instrument detection limit (IDL). The associated data should be considered usable for decision making purposes.
- U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample detection limit corrected for sample aliquot size, dilution factors and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ Indicates the constituent was analyzed for and was not detected. Due to a minor quality control deficiency identified during data validation, the concentration reported may not accurately reflect the sample detection limit. The associated data have been qualified as estimated but should be considered usable for decision making purposes.
- BJ Indicates the constituent was analyzed for and detected at a concentration less than the CRDL but greater then the IDL. Due to a minor quality control deficiency identified during data validation, The associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- J Indicates the constituent was analyzed for and detected. Due to a minor quality control deficiency identified during data validation the associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- UR Indicates the constituent was analyzed for and not detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.
- R Indicates the constituent was analyzed for and detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.

ATTACHMENT 2 SUMMARY OF DATA QUALIFICATIONS

DATA QUALIFICATION SUMMARY

PKG SDG:	WAL IDATOR	DATE.	DACE / OF /
9401225-WES-1478	VALIDATOR:	DATE: 3/3//94	PAGEOF/
	games		
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
antimony	U	BOGOTO	and to de tectes
0			and blank
Zune	J	BOGDTO	7.0 × 10% in
			sinal dilution
arsenie	BJ	BOGNTO	analytical spile
			recovery >1152
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ATTACHMENT 3

----QUALIFIED DATA SUMMARY-AND ANNOTATED LABORATORY REPORTS

Validated Data Sunnary, Data Package: 9401L205-WES-1478

	·		
İ	Samp#	809010	
1	Date	1-6-94	
1	Location		-
· ·	Depth		-
1	Type		-
I	Connents	•	•
Parameter	Units	Result	Q
ALUMENUM	MG/KG	4600.000	
ANTIHONY	MG/KG	5.000	U
ARSENIC	MG/KG	2.000	BJ
BARIUM	MG/KG	67.900	
BERYLLIUM	MG/KG	0.200	U
CADMIUN	MG/KG	0.810	U
CALCIUM	MG/KG	8020.000	
CHROMEUM	MG/KG	8.600	
COBALT	MG/KG	5.600	8
COPPER	MG/KG	9.200	
LRON	MG/KG	10500.000	
LEAD	MG/KG	3,.000	
MAGNESIUM	MG/KG	3400.000	
MANGANESE	MG/KG	252.000	
MERCURY	MG/KG	0.050	U
NICKEL	MG/KG	7.200	В
POTASŠIUM.	MG/KG	1150.000	
SELENIUM.	MG/KG	0.410	U
SILVER	MG/KG	1.020	U
SOOTUM	MG/KG	84.500	8
THALLIUM	MG/KG	0.410	U
VANADIUM	MG/KG	21.000	
Žinc	MG/KG	28.300	J
CYANIDE	MG/KG	1.020	U
MULÍNATIT	MG/KG	612.000	
L	ii		

in the second

INORGANIC ANALYSIS DATA SHEET

B09DT0

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON Case No.: WEST SAS No.:

SDG No.: CLP205

Matrix (soil/water): SOIL

Lab Sample ID: 940120501

Level (low/med):

LOW Date Received: 1/11/94

% Solids:

98.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

				_			_
_	CAS No.	Analyte	Concentration	С	Q	М	
- -	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-70-2 7440-47-3 7440-48-4 7440-50-8	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper	4600.00 5.00 2.00 67.90 .20 .81 8020.00 8.60 5.60 9.20	- Ap Ap	w		U BJ
	7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0	Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium	252.00 .05′ 7.20	# DD#D	Ε		7

Color Before: BROWN Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts:

Comments:

FORM I - IN

ATTACHMENT 4

LABORATORY NARRATIVE AND CHAIN-OF-CUSTODY DOCUMENTATION

:		lestinghouse lanford Company	NONC	ONFORM	MANCE REF	ORT	1. Page/_	2. Preprinted No. QA Log No. EQA - 94	51940
!		N. G., ar Jab	4. System/End Use	-	5. Item/Materia		6. Dwg.,/Spec./	Other No.	7. Rev
	Control No	N/A	1419 Field Inventor	etication	Sample (501)	BC9 DS9		V/A
	8. Program	n/Project/Other	أمكوراً			9. Safety Class	10. ASME Code	Items Yes	⊠ No
-	200	5-UP-X2/	⁸ SAF 93-	-263		NA	(If yes, notify au	thorized inspector	_
		ier Name/Address				·	12. Notification	of Potential Occur	rence Require
	<u></u>	,	00 1:\- 1				(∏Yes ☑ No	
	DOM!	Los/Heat/Serial	Mobile	(1)5 15. Sa	mple	16. Qty. Acc.	17. inspection (ritaria	
	NI		4		1		Owg. [Spec. Insp	. Plan
	161	/Τ		-			Other with	46-600-7 ET 5.1 Jul. 5 TEO July 5. 647, 5.2	406.3.3-3
1	18. Item	19. Description of	Nonconformance (lis	t serial no. v	vhere applicable)	22. 0	isposition, Justific		
, X	1	Us stated in	WHC-CM-7-7 F.T	751 Pay 5	ser 62 itai	Interim	disposition	i is to revi	ew data
ç Ş	,		Witness/FickTea		<i>i</i>	1	e metals and	1	
		11 /	step form and she			:	duplicate	·	
		l <u> </u>	bers or other u			sent_to	Weston (HE)	S_#B090T0\	
٠ ـ .		<u> </u>	ted in WHE-con-			<u>If meta</u>	ls results a	re less tha	n
		546.5.2 its	:ج			detecta	ole, the sam	nple wili be	rejecte
		בי ב פתים : ב שמה	the Chail of Cus	tedy Lan	ple Gnalysis	through	the NCR pro	cess and th	e NCR
	:= · · · · · · ·	Requ = 130-	GCC0-923) or Sa	eple Ana	ysis leguast	closed			
		(2-500-0C)	to our pany the	z sample	sto the				
		anolytical Ex	eilit fr						
_		Contracto the	above The D	hun at	ustedy				
		was not intic	ited for the m	etals E	action				
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				· - · · · · · · · · · · · · · · · · · ·					
	20. Origin	setor's Signature	wh	1/27		esign Document C	•		
	21 Sgni	zant 24 Manager's	LESALI Signature		• •	orrective Action Re			
	76 8	ENVINGTON		1/1/04	,	Yes, No			
	<u> </u>	Squeent Engineer) 3/16/94	26. Techn	ncai Rep.	Date	Signature/Org		Date
	قا <u>۳</u> و ۲	RISLE /	126 3/15/9	Signa	ture/Org.	_∃ate	Signature/Org		Date
	27.		7					v	0.1.1
	S Acce	ppt Reject	Follow on	NCR	 .	QA/C F	iennozre ^c		Date

HANFORD ANALYTICAL SERVICES MANAGEMENT

RECORD OF DISPOSITION

ROD-94-0012 Record of Disposition No.

LABORATORY: Weston DATE: January 18, 1994

PROJECT TITLE/NO.: 200-UP-1

NCR NO .: ALA

SAMPLE IDENTIFICATION NUMBERS: B09DT0, B093H5, B093J4

DESCRIPTION OF EVENT:

- Samples BO9DS9 and BO9DTO were collected as field splits and targeted for shipment to TMA (primary) and Weston (split), respectively. During collection, the metals fraction (CLP TAL plus Ti) of sample BO9DS9 was inadvertently omitted. A decision was made in the field to ship the metals fraction of sample BO9DTO to TMA to obtain a complete suite of analyses at the primary lab. This change was not reflected on the Weston Chain of Custody and Analytical Request form which indicated that a 500ml container was submitted for metals analysis. No metals fraction was received by Weston.
- b) The Chain of Custody and Analytical Request form indicated that VOA fractions for samples B093H5 and B093J4 were shipped to Weston. Weston did not receive a VOA fraction for either of the two samples.

DISPOSITION OF SAMPLES:

Since sample BO9DTO was soil (chemically unpreserved), Weston was instructed to use remaining sample material from the other fractions to perform analysis for the

requested metals (CLP; TAL plus Ti). VOA analysis for samples was canceled.	s B093H5 and B093J4
APPROVAL SIGNATURES:	
J. A. Lerch OSM Project Coordinator (Print/Sign Name)	1/19/94 Date
M. J. Galgoul Technical Representative (Print/Sign Name)	1/28/94 Date
N/A Quality Assurance (Print/Sign Name)	Date



ROY F. WESTON, INC. LIONVILLE ANALYTICAL LABORATORY ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD

W.O. #: 06168-002-001-9999-00

Date Received: 01-11-94 **RFW#**: 9401L205

METALS

1. This narrative covers the analysis of one (1) soil sample.

- The samples were prepared and analyzed in accordance with the following protocols: CLP SOW 3/90.
- 3. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures Laboratory and High Purity.
- 4. All analyses were performed within the required holding times.
- 5. All Initial and Continuing Calibration Verifications (ICV/CCV's) were within control limits.
- All Initial and Continuing Calibration Blanks (ICB/CCB's) were within control limits.
- 7. All Preparation/Method Blanks were below Reporting Limits.
- 8. -All ICP Interference Check Samples (ICSA and ICSAB) were within control limits.
 - 9. All Laboratory Control Samples (LCS) were within the 80-120% control limits.
 - 10. All Serial Dilution percent differences were within <u>USEPA SOW</u> control limits except for:

RFW_#	<u>Element</u>	%Difference
001	Zinc	15.5

All Matrix Spike recoveries were within the 75-125% control limits (exception 11. allowed when sample concentration exceeds the spike added concentration by a factor of 4 or more).

Matrix spike analyses are not required for Al, Fe, Ca, Mg, Na, and K in soils.



- 12.—All Duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits for samples values greater than 5X Reporting Limit, or +/- the Reporting Limits for sample values less than 5X Reporting Limit.
- 13. Method of Standard Additions (MSA) analyses were not required.
- 14. The code CV- is currently in use by the laboratory for both mercury instruments in operation (HG1 and HG2). HG1 is complete with autosampler and software, but still requires manual digestion; HG2 is operated by the analyst, produces a strip chart and also requires manual digestion.
- 15. HG1 requires less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionally scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 ml. For soils, 0.1 gram of sample is taken to a final volume of 50-ml (including all reagents).
- 16. ICP Interelement Correction Factors for IC3 are included in this package but do not appear on EDD.
- 17. The graphite furnace time that appears on form XIV is the time of the first injection.

 The time that appears on the data is the print time.
- 18. A discrepancy exists between raw data and Form XIVs analytical spikes recovery calculations performed for graphite furnace AA analytes. Instrument software calculates spike recoveries based on absolute values below the IDL for sample results. This is hard-coded by the vendor and is currently not correctable. CLP convention (SOW ILM02.0, Exhibit E, Section V, Item 6, page E-20) requires that when values fall below the IDL, the sample result is equal to zero (0) for the purposes of calculating the percent recovery. The Form XIVs contain the correct calculation.

J. Peter Hershey, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

3.1,94 Date

Date

pas/m01-205.ctp

94011205

Westing	house
Hanford	Company

CHAIN OF CUSTODY

Hanford Company			
	LE ROGERS, WHSET	<u> </u>	
Company Contact LE	ROGERS	Telephone 376-76	90
Project Designation/Sampl	ing Locations 200-UP-2	Collection Date	1.6.94
Ice Chest No.	5-//	Field Logbook No.	EFL-1091
Bill of Lading/Airbill No	. <u>NA</u>	Offsite Property No.	Orsr 17596
Method of Shipment OVE	RNIGHT AIR SERVICE		·
Shipped to WESTON			
Possible Sample Hazards/R	emarks Keep samples at 4	c (SOIL) RADIDACTI	UE
	Sample	Identification 946/L	205-001
1,125ml Gs:VOA CL 1,500ml aG:Semi-V 1,250ml G:Anions 1,125ml P/G:Anions 1,250ml G:Cyanid 1,1000ml P/G:Gross Eu-154,Eu-	POA CLP F,Cl,SO4 (EPA 300.0) NO2,NO3 (EPA 353.1) WE CLP Alpha/beta (PRO-032-15), Gamma Sp 155,K-40,Ru-106,Na-22 (PRO-042-5 PRO-052-32) Sr-90 (PRO-032-38,PRO	GA _{FR AQ} sec to include,Cs-134,Cs-137,Co-60,Eu-1), U-235,U-234,U-238 (PRO-052-32) Np-23 -032-25) Tc-99 (PRO-032-78) Am-241,Cm-	57.(PRO-042-5) Pu-238.Pu-
. 21			
1,125ml P/G:Anions 1,250ml G:Cyanid 1,1000ml P/G:Gross Eu-154.Eu-1	.P /OA CLP : F,Cl,SO4 (EPA 300.0) : NOZ-NO3 (EPA 353.1) de CLP alpha/beta (PRO-032-15), Gamma Sp :55.K-40,Ru=106,Na-22-(FRQ-042-5)	pec to include,Cs-134,Cs-137,Co-60,Eu-1, U-235,U-234,U-238 (PRO-052-32) Np-237 032-25) Tc-99 (PRO-032-78) Am-241,Cm-24	.(PRO-042-5) Pu-238.Pu-
3)		ED-10	
1,500ml P:CLP;TA 1,125ml Gs:VOA CL 1,500ml aG:Semi-V 1,250ml G:Anions 1,125ml P/G:Anions 1,250ml G:Cyanid	/OA CLP : F,Cl,SO4 (EPA 300.0) : NO2,NO3 (EPA 353.1) de CLP alpha/beta (PRO-032-15), Gamma Sp 55,K-40,Ru-106,Na-22 (PRO-042-5)	Dec -to include,Cs-134,Cs-137,Co-60,Eu-1, U-235,U-234,U-238 (PRO-052-32) Np-23,032-25) Tc-99 (PRO-032-78) Am-241,Cm-24	7. (PRO-042-5) Pel-238. Pu-
[] Field Transfer_o	f.CustodyChain o	f Possession	(Sign and Print Names)
Relinguished by:	1115 Received by:	Date/Time: 1-6-94	1115
Relinquished by:	1-15-94 WE Received by:	Date/Time: 1-10-94	! 0715
Retinquished by:	Received by: 2	Date/Time:	
Relinquished by:	Received by:	Date/Time:	
FLDEX	- 3/	1-11-94	9/30
<u>-</u>	Final Sa	mple Disposition	
Disposal Method:	Disposed by:	Date/Time:	
Comments:			

ATTACHMENT 5 DATA VALIDATION SUPPORTING DOCUMENTATION

WHC-SD-EN-SPP-002, Rev. 2

	INORGANIC	ANALYSIS DAT	A VALIDATION	CHECKLIST	13/44	
VALIDATION LEVEL:	Α	В	С	20	E)
PROJECT:	200-UP-3	2	DATA PACKAG	E:9401L205-	WES-147	75
	P Schildt			DATE: 3/3.		
CASE: Co.	et _	-	SDG: N/A			
		ANALYSES	PERFORMED			
Z CLP/ICP	D'CLP/GFAA	, ET CLP/Hg	. Z CLP/Cyanida	0		
☐ SW-846/ICP	□ SW-846/GFAA	□ SW-846/Hg	□ SW-846 Cyanide	0	ם	
SAMPLES/MATE	IX BO9DT	Olavil			· · · · · · · · · · · · · · · · · · ·	
			···			 -
		<u> </u>	<u> </u>			
Is technical	AGE COMPLETEN verification rative presen	documentation	present? .	• • • • • • • • • • • • • • • • • • • •	Yes No Yes No	N/A N/A
2. HOLDING T Are-sample ho		cceptable?			Yes No	N/Δ
				• • • • •		11/ 0
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		· · · · · · · · · · · · · · · · · · ·				

WHC-SD-EN-SPP-002, Rev. 2

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS		
Were initial calibrations performed on all instruments? Yes	No N	/A
Are initial calibrations acceptable? Yes	No N	/A
Are ICP interference checks acceptable?	No N	/A
Were ICV and CCV checks performed on all instruments? (es)	No N	/A
Are ICV and CCV checks acceptable? Yes	No N	/ A
Comments:		
	··	
		_
4. BLANKS		
Were ICB and CCB checks performed for all applicable analyses? Yes	No N	/ A
	No N	/ A
Were preparation blanks analyzed? Yes	No N	/A
Are preparation blank results acceptable? Yes	No-> N	/ A
Were field/trip blanks analyzed? Yes	No (N	/A
		/A`
comments: Sample information was not provided. Field	J'C	_
data will be reviewed in the summary report.		
data will be reviewed in the summary report. Antimone detected in the prop blank		
		_
5. ACCURACY		
Were spike samples analyzed? Yes	No N	/A
Are spike sample recoveries acceptable? Yes	No N	/ A
Were laboratory control samples (LCS) analyzed?	No N	/ A
Are LCS recoveries acceptable? Yes	No N	/ A
Comments:		
		_

WHC-SD-EN-SPP-002, Rev. 2

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

6. PRECISION		
Were laboratory duplicates analyzed? Yes	No	N/A
Are laboratory duplicate samples RPD values acceptable? Yes	No	N/A
Were ICP serial dilution-samples analyzed? Yes	No	N/A
Are ICP serial dilution %D values acceptable? Yes	(Vo)	≥N/A
Are field duplicate RPD values acceptable? Yes	No	NA
Are field split RPD values acceptable? Yes	No	(N/A)
Comments: Sample information was not provided. Field	ac	
data will be reviewed in the summary report.		
ToD for zine executed 10% while son	سبوك	le
routt was > 50x IDL.	/	
7. FURNACE AA QUALITY CONTROL		
Were duplicate injections performed as required? Yes	No	N/A
Are duplicate injection %RSD values acceptable?	No	N/A
Were analytical spikes performed as required? Yes	No	N/A
Are analytical spike recoveries acceptable? Yes	No	N/A
Was MSA performed as required? Yes	No	NTA
Are MSA results acceptable? Yes	No	NZA
Comments: from >115% for assert		
J /		
8. REPORTED RESULTS AND DETECTION LIMITS		
Are results reported for all requested analyses? Yes	No	N/A
Are all results supported in the raw data?Yes	No	N/A
Are results calculated properly?	No	N/A
Do results meet the CRDLs? Yes	No	N/A
Comments:		

HOLDING TIME SUMMARY

17KC SDG: 94011205	5-6185 -1478	VALIDATOR:	& Achi	216	DATE: 3/31/94	PAC	ieor
COMMENTS:	in to hay and	· · · · · · · · · · · · · · · · · · ·					·
FIELD SAMPLE ID	√ ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOGBTO	TOP	1/6/94	2/9/94	2/15/94	34	40.	irone.
	TUPTI			2/17/94		42	1
	GFAA-AS			2/17/04			
	GFAA-PL			2/12/94			
	GFAA - Se			2/17/94			
,	GFAA-71		13,331	2/17/94		<u> </u>	<u>'</u>
	CV-Ha		2/13/94	2/3/94	28 33-5Kill	28	
6	CN		1/12/94	1/13/94	6	7	a
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								Maria Maria	0749		
				BLANK	AND	SAMPL	E DATA S	SUMMARY	:		
SDG: 44012	1.2015 - WES	-1478		VALIDATO	وز . R	2.1	chileto	DATE: 3/	131/94	PAGE	OF
COMMENTS: 5	Lucrejan		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	1		·	·			·
SAMPLE ID	COMPOUND	· .		RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
PBIK	Centina	er erunig		5.5	B		145/kg	27.5		1309070	54
		<i>O</i>	· · · · · · · · · · · · · · · · · · ·				<i>J</i> .	<u> </u>			
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PRG 9401205- SPG: WES-1478 VALIDA	NTOR:	. Holmholf	DATE: 3/3/19	4	PAG	E <u>/</u> OF <u>/</u>
COMMENTS: TCP	Hir	at Delute	en-			
COMPOUND		SAMPLE ID:	SAMPLE ID: BOSOTOL	RPD 720	SAMPLES AFFECTED	QUALIFIER
Zere	·	/.39	160.5	15.5	BOGDTO	J
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ACCURACY DATA SUMMARY

SDG: 9401 L 205 - WES -1	478 VALIDATOR: Stabilit	DATE: 3/3,/94		PAGEOF	
SDG: 9401205-WES-1478 VALIDATOR: She buldt COMMENTS: GFAA Qualytical Symbe			CAMPLE(C)	1	
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE (S) AFFECTED	QUALIFIER REQUIRED	
BOADTO	arsense	151	BOGDTO	BJ	
·····					
				<u> </u>	
				<u> </u>	
· · · · · · · · · · · · · · · · · · ·				 	
· · · · · · · · · · · · · · · · · · ·					

U.S. EPA - CLP

3 BLANKS

Lab name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab code: WESTON Case No.: WEST SAS No.: SDG No.: CLP205

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L) C		nuing Calib Blank (ug/L 2 C		Prepa- ration Blank C	м
Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium	27.0 U 19.0 U 2.0 U 6.0 U 1.0 U 4.0 U 20.0 U	23.4 E 2.0 U 6.0 U 1.0 U 4.0 U 20.0 U	19.0 U -2.2 B 6.0 U 1.0 U 4.0 U 20.0 U	27.0 U 19.0 U 6.0 U 1.0 U 4.0 U 20.0 U 5.0 U	5.400 U 5.500 B .400 U 1.200 U .200 U .800 U 4.000 U 1.300 B	PPFPPPP
Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide	5.0 U 7.0 U 7.0 U 2.0 U -30.0 E	5.0 U 7.0 U 2.0 U 29.0 U 1.0 U 9.0 U 9.0 U 938.0 U 5.0 U 4.0 U 2.0 U	5.0 U 7.0 U 2.0 U 29.0 U 1.0 U 9.0 U 9.0 U 9.0 U 9.0 U 48.0 U 2.0 U 4.0 U 2.0 U	5.0 U	1.000 U 1.400 U 1.400 U .400 U .5.800 U .050 U 1.800 U 197.600 B .400 U 1.000 U 12.200 B .400 U .960 B .920 B	

FORM III - IN

03/90

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

B09DT0L

Lab Name: ROY F. WESTON, INC - L372 Contract: 6168-02-01

Lab Code: WESTON

Case No.: WEST

SAS No.:

SDG No.: CLP205

Matrix (soil/water): SOIL

Level (low/med): LOW

Concentration Units: ug/L

}	 Initial Sample		Serial Dilution		% Differ-		
Analyte	Result (I)	c	Result (S)	c	ence	Q	М
		[]~]	!
Aluminum	22599.10	-	22140.51	-	2.0	-	P
Antimony	24.40	В	254.00] B	941.0		P
Arsenic				1 1			}
Barium	333.20		325.00	B	2.5-		P
Beryllium	1.00	В	5.00	ן ט	100.0		PPPPP
Cadmium	4.00	U	21.50	В	100.0		P
Calcium	39374.30	i i	38888.01		1.2] .	P
Chromium	42.10	_	68.00	1_1	61.5		P
Cobalt	27.60	В	51.50	B	86.6	[P
Copper	45.10		76.50	В	69.6~		P
Iron	51473.50		52501.99		2.0		P
Lead	1						[[
Magnesium	16685.80		16656.50	В	2-		P
Manganese	1238.00		1209.50		2.3		P
Mercury		1 1		1 1			[
Nickel	35.20	В	47.50	В	34.9		P
Potassium	5622.90	ĺ	10402.50	B	85.0		P
Selenium	ŧ						
Silver	5.00	U	42.50	В	100.0	1	P
Sodium	415.00	В	1097.50	B	164.5-		P
Thallium				{ }	1	} :	
Vanadium	103.10		124.50	В	20.8		P
Zinc	139.00		160.50] [15.5	E	P
l	Ì	_		_			

FORM IX - IN

03/90

3/81/94 -0-0-37₀₂₅

94535492 9452475B ATTACHMENT 15 Page 1 of 24

SEMIVOLATILES DATA VALIDATION SUMMARY FOR DATA PACKAGE: 9401L205-WES-1478 (923-E418)

TO: 200-UP-2 Project QA Record

FR: Sandra Schildt, Golder Associates Inc.

RE: SEMIVOLATILES DATA VALIDATION SUMMARY FOR DATA PACKAGE 9401L205

WES-1478 (923-E418)

INTRODUCTION

This memorandum presents the results of data validation on data package 9401L205-WES-1478 prepared by Roy F. Weston, Inc. (Weston). A list of the samples validated along with the analytes reported and the method of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSIS
B09DT0	1/06/93	SOIL.	SEE NOTE 1-

Note 1: The samples were analyzed for CLP semivolatile target compound list (TCL) organics.

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 to this memo provide the following information:

Attachment 1.- Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

This section presents a summary of the data quality in terms of the referenced validation criteria.

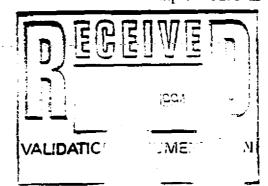
Precision. Goals for precision were met.

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met for all sample results as specified in the

reference analytical method.



Completeness. The data package was complete for all requested analyses. One sample (1) was validated in this data set with a total of 64 determinations reported, all of which were deemed valid. This results in a completeness of 100% which meets normal work plan objectives of 90%.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

The following is a summary of the minor deficiencies identified during validation which required qualification of data.

Laboratory Blanks

• Di-n-butylphthalate and bis(2-ethylhexyl)phthalate were detected in the method blank. Attachments 2 and 5 provide a summary of the samples affected, data qualifications applied, and supporting documentation.

TENTATIVELY IDENTIFIED COMPOUND EVALUATION

Tentatively identified compounds (TICs) reported by the laboratory were evaluated during validation and qualified as follows:

- TICs were detected in the sample and identified as common laboratory contaminants, resulting in qualification of the results as unusable (R) as shown in Attachment 3.
- TICs were detected in the sample and determined to be valid, resulting in qualification of the results as presumptive and valid (JN).

REFERENCES

WHC 1993a, Validation of 200-UP-2 Data, Statement of Work, Analytical Laboratory Data Validation Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993, Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 1

GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF ORGANIC DATA REPORTING QUALIFIERS

- B Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.
- U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample quantitation limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.
- J Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However in either case, the associated data should be considered usable for decision making purposes.
 - NJ Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
 - N Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
 - JN Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.
 - UJN- Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected due to associated blank contamination.
 - UR Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
 - R Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

ATTACHMENT 2 SUMMARY OF DATA QUALIFICATIONS

DATA QUALIFICATION SUMMARY

9401L205-WES-147	VALIDATOR:	DATE: 4/6/94	PAGEOF/_
COMMENTS: Sem	wolstile	<u>, </u>	
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Di-N-Butcht	Slate U	BOSDTO	Compound detical
Di-N-Butulahthe Bis 2- thyllien Detholo	A U	BOPETO	in Alank
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.... ATTACHMENT 3

QUALIFIED DATA SUMMARY AND ANNOTATED LABORATORY REPORTS

Validated Data Summary, Data Package: 9401L205-WES-1478

	Sampil	B090T0	
	Date	1-6-94	
	Location		-
	Depth		-
<u> </u>	Type		-
	Comments		
Parameter	Units	Result	Q
PHENOL	UG/KG	340.000	u
BIS(2-CHLOROETHYL)ETHER	UG/KG	340.000	Ų
2-CHLOROPHENOL	UG/KG	340.000	Ų
1,3-DICHLOROBENZENE	UG/KG	340.000	u) U
1,4-DICHLOROBENZENE	UG/KG	340.000	
1,2-DICHLOROBENZENE	UG/KG	340.000	U
2-METHYLPHENOL	UG/KG	340.000	U
2,21-OXYBIS(1-CHLOROPROPANE)	UG/KG	340.000	U
4-METHYLPHENOL	UG/KG	340.000	u
N-NITROSO-DI-N-PROPYLANINE	UG/KG	340.000	ď
HEXACHLOROETHANE	UG/KG	340.000	U
NI TROBENZENE	UG/KG	340.000	IJ
ISOPHORONE	UG/KG	340.000	U
2-MITROPHENOL	UG/KG	340.000	U
2,4-DIMETHYLPHENOL	UG/KG	340.000	U
BIS(2-CHLOROETHOXY)METHANE	UG/KG	340.000	U
2,4-D1CHLOROPHENOL	UG/KG	340.000	U
1,2,4-TRICHLOROBENZENE	UG/KG	340.000	U
NAPHTHALENE	UG/KG	340.000	U
4-CHLOROANILINE	UG/KG	340.000	u
HEXACHLOMOBUTAD I ENE	UG/KG	340.000	U
4-CHLORO-3-METHYLPHENOL	UG/KG	340.000	U
2-METHYLMAPHTHALENE	UG/KG	340.000	U
HEXIACHLOROCYCLOPENTADIENE	UG/KG	340.000	u
2,4,6-TRICHLOROPHENOL	UG/KG	340.000	U
2,4,5-TRICHLOROPHENOL	UG/KG	840.000	U
2-CHLORONIAPHTHALENE	UG/KG	340.000	U
2-NI TROANILINE	UG/KG	840.000	U
DIMETHYLPHTHALATE	UG/KG	340.000	U
ACEMAPHTHYLENE	UG/KG	340.000	U
3-NITROANILINE	UG/KG	840.000	U
ACENAPHTHENE	UG/KG	340.000	U

Validated Data Summary, Data Package: 9401L205-WES-1478

	Samp#	B09010	
	Date	1-6-94	
	Location		
	Depth		
	Type		-
,	Comments		_
Parameter	Units	Result	Q
2,4-DINITROPHENOL	UG/KG	840.000	Ų
4-NITROPHENOL	UG/KG	840.000	U
DIBENZOFURAN	UG/KG	340.000	U
2,4-DINITROTOLUENE	UG/KG	340.000	U
2,6-DINITROTOLUENE	UG/KG	340.000	U
DIETHYLPHTHALATE	UG/KG	340.000	U
4-CHLOROPHENYL-PHENYLETHER	UG/KG	340.000	U
FLUORENE	UG/KG	340.000	U
4-NITROANILINE	UG/KG	840.000	U
4,6-DINITRO-2-METHYLPHENOL	UG/KG	840.000	U
N-NITROSODIPHENYLAMINE	UG/KG	340.000	U
4-BROMOPHENYL-PHENYLETHER	UG/KG	340.000	U
HEXACHLOROBENZENE	UG/KG	340.000	IJ
PENTACHL OROPHENOL	UG/KG [840.000	U
PHENANTHRENE	UG/KG	340.000	U
ANTHRACENE	UG/KG	340.000	U
CARBAZOLE	UG/KG	340.000	U
DI-N-BUTYLPHTHALATE	UG/KG	340.000	U
FLUORANTHENE	UG/KG	340.000	U
PYRENE	UG/KG	340.000	U
BUTYLBENZYLPHTHALATE	UG/KG	340.000	υ
3,3'-DICHLOROBENZIDINE	UG/KG	340.000	U
BENZO(A)ANTHRACENE	UG/KG	340.000	u
BIS(2-ETHYLHEXYL)PHTHALAYE	UG/KG	340,000	U
CHRYSENE	UG/KG	340.000	U
DI-N-OCTYLPHTHALATE	UG/KG	340.000	U
BENZO(B)FLUORANTHENE	UG/KG	340.000	U
BENZO(K) FLUORANTHENE	UG/KG	340.000	U
BENZO(A)PYRENE	UG/KG	340.000	U
INDENO(1,2,3-CD)PYRENE	UG/KG	340.000	U
DIBENZ(A, H)ANTHRACENE	UG/KG	340,000	U
BENZO(G,H,1)PERYLENE	UG/KG	340.000	U



Q

BOSDTO Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Lab Sample ID: 9401L205-001 Matrix: (soil/water) SOIL

Sample wt/vol: 30.2 (g/mL) G Lab File ID: L012408

Level: (low/med) LOW Date Received: 01/11/94

* Moisture: ____2 decanted: (Y/N)___ Date Extracted: 01/13/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/24/94

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) <u>ug/Kg</u>

		 -
108-95-2Phenol	340	Ü
111-44-4bis(2-Chloroethyl)ether	340	שׁ
95-57-82-Chlorophenol	340	ับ
541-73-11,3-Dichlorobenzene	340	ע
106-46-71,4-Dichlorobenzene	340	ប
95-50-11,2-Dichlorobenzene	340	U
95-48-72-Methylphenol	340	ָ דו
108-60-12,2'-oxybis(1-Chloropropane)	340	U
106-44-54-Methylphenol	340	! -
621-64-7N-Nitroso-di-n-propylamine	340	U
67-72-1Hexachloroethane	340	ָ ប
98-95-3Nitrobenzene	340	•
78-59-1Isophorone	340	•
88-75-52-Nitrophenol	340	
105-67-92,4-Dimethylphenol	340	U
111-91-1bis(2-Chloroethoxy)methane	340	
120-83-22,4-Dichlorophenol	340	
120-82-11,2,4-Trichlorobenzene	340	
91-20-3Naphthalene	340	
106-47-84-Chloroaniline	340	
87-68-3Hexachlorobutadiene	340	-
59-50-74-Chloro-3-methylphenol	340	
91-57-62-Methylnaphthalene	340	
77-47-4Hexachlorocyclopentadiene	340	
88:06-22,4,6-Trichlorophenol	340	
95-95-42,4,5-Trichlorophenol	840	
91-58-72-Chloronaphthalene	340	
88-74-42-Nitroaniline	840	_
131-11-3Dimethylphthalate	340	
208-96-8Acenaphthylene	340	-
606-20-22,6-Dinitrotoluene	340	-
99-09-23-Nitroaniline	840	-
83-32-9Acenaphthene	340	
	1	J

B09DT0

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9401L205-001

Sample wt/vol: 30.2 (g/mL) GLab File ID: L012408

Level: (low/med) LOW Date Received: 01/11/94

* Moisture: ____2 decanted: (Y/N)___ Date Extracted: 01/13/94

Concentrated Extract Volume: 500 (uL) Date Analyzed: 01/24/94

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

	-2,4-Dinitrophenol	840	ט
	-4-Nitrophenol	840	• •
132-64-9		340	וֹ דוֹ
121-14-2	-2,4-Dinitrotoluene	340	
84-66-2	-Diethylphthalate	340	•
	-4-Chlorophenyl-phenylether	340	ט
86-73-7	-Fluorene	340	បែ
100-01-6	-4-Nitroaniline	840	•
534-52-1	-4,6-Dinitro-2-methylphenol	840	וֹ דוֹ
86-30-6	-N-Nitrosodiphenylamine (1)	340	σ.
101-55-3	-4-Bromophenyl-phenylether	340	ַ ט
118-74-1	-Hexachlorobenzene	340	י
87-86-5	-Pentachlorophenol	840	ט
85-01-8	-Phenanthrene	340	
120-12-7	-Anthracene	340	υ i
86-74-8		340	υ
94-74-2	-Di-n-butylphthalate	- 340320	
206-44-0	-Fluoranthene	340	
129-00-0	-Pyrene	340	ប
85-68-7	-Butylbenzylphthalate	340	
91-94-1	-3,3'-Dichlorobenzidine	340	
56-55-3	-Benzo(a)anthracene	340	ט
218-01-9	-Chrysene	340	ט
117-81-7	-bis(2-Ethylhexyl)phthalate	340 22	ا ح
117-84-0	-Di-n-octyl phthalate	340	י די
205-99-2	-Benzo(b) fluoranthene	340	ָ די i
207-08-9	-Benzo(k) fluoranthene	340	u i
50-32-8	-Benzo(a) pyrene	340	
193-39-5	-Indeno(1,2,3-cd)pyrene	340	•
53-70-3	-Dibenz(a,h)anthracene	340	•
	-Benzo(g,h,i)perylene	340	, ,

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2

3/90

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT	SAMPLE	NO.	

BOSDTO

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: . 9401L205-001

Sample wt/vol: 30.2 (g/mL) \underline{G}

Lab File ID: L012408

Date Received: 01/11/94

Level: (low/med) LOW

4 Moisture: 2 decanted: (Y/N) ____ Date Extracted: 01/13/94

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 01/24/94

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 6.8

Number TICs found: 6

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	 Q	
1	UNKNOWN	6:00	70	سور	JN
2.	ALDOL CONDENSATE	6.30		JA	R
3.	ALDOL CONDENSATE	7.37	200	سيهيد	Ì₽
4.	ORGANIC ACID	16.13	200		IJN
5.	PHOSPHATE	23.68	400	ستخذ	IN
6.	UNKNOWN	26,75	100	ستد ا	IJN
l					

FORM 1 SV-TIC _____3/90

ATTACHMENT 4

LABORATORY NARRATIVE AND CHAIN-OF-CUSTODY DOCUMENTATION



ROY F. WESTON, INC. LIONVILLE ANALYTICAL LABORATORY ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD

. W.O. #: 06168-002-001-9999-00

RFW #: 9401L205

Date Received: 01-11-94

SEMIVOLATILE

One (1) soil sample was collected on 01-06-94.

The sample and its associated QC samples were extracted on 01-13-94, 02-14-94 and analyzed according to criteria set forth in CLP SOW 3/9O for TCL Semivolatile target compounds on 01-24-94, 02-15-94.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

- 1. Non-target compounds were detected in these samples.
- 2. All surrogate recoveries were within EPA QC limits.
- 3. All matrix spike recoveries were within EPA QC limits.

A matrix spike and a matrix spike duplicate for sample B09DT0 were extracted, in hold in batch 94LE0070; however there were several low recoveries in the matrix spike and consequently several RPD limits were exceeded. The MS and MSD were re-extracted out of hold and only the second set of spikes were reported; the first set of MS/MSD data is available upon client request.

- 4. All blank spike recoveries were within EPA QC limits.
- 5. The laboratory blank 94LE0070-MB1 contained the common contaminant Di-n-butylphthalate at a level less than the CRQL. The laboratory blank 94LE0305-MB1 contained the common contaminants Di-n-butylphthalate at a level less than 4x the CRQL, Butylbenzylphthalate at a level less than 3x the CRQL, and Bis(2-ethylhexyl)phthalate at a level less than the CRQL.
- 6. All internal standard area and retention time criteria were met.

J. Peter Hershey, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

03.01 94

Date

/dlc/bna/01-205b.cn

-27,570,4 -3-5-5

-014

| Field Transfer of Custody | Chain of Possession | Chain of Posse

A-6000-407 (12/90) (EF) WEF061 Chain of Custody

4/1/94

DATA VALIDATION SUPPORTING DOCUMENTATION

		· · · · · · · · · · · · · · · · · · ·		11/11/9-1
A	<u>.</u> B	, ¢,, ,		E E
200-UP-	2	DATA PACKAG	iE: 9401205	-WES-1478
Schilott	LAB: Wes		DATE: 4/4	1/94
		SDG: NA		
	ANALYSES	PERFORMED		
SW-846 8240 (cep column)	SW-846 8260 (pecked column)	Semivoletiles	SW-846 8270 (cap column)	SW-846 (packed column)
0		<u> </u>	0	0
verification	documentation	present? .	<u> </u>	es No N// es No N//
				
	SW-846 8240 (cep column) RIX BO907 CAGE COMPLETENT Verification	ANALYSES SW-846 8240 SW-848 8260 (pecked column) ANALYSES ANALYSE ANALYSES ANALYSES ANALYSE ANALYSES PERFORMED SW-846 8240 SW-846 8260 SCLP Serrivolatiles ANALYSES PERFORMED SW-846 8240 SW-846 8260 SCLP Serrivolatiles ANALYSES PERFORMED ANALYSES PERFORMED SW-846 8260 SCLP Serrivolatiles ANALYSES PERFORMED ANALYSES PERFORMED ANALYSES PERFORMED SW-846 8240 ScLP Serrivolatiles ANALYSES PERFORMED ANALYSES P	DATA PACKAGE: 94012205 LAB: DATA PACKAGE: 94012205 LAB: DATE: 4/4 SDG: NA ANALYSES PERFORMED SW-846 8240 SW-848 8260 SCLP Sw-846 8270 (csp column) Semivolatiles (csp column) CASE COMPLETENESS AND CASE NARRATIVE Verification documentation present?	

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3. INSTRUMENT TUNING AND CALIBRATION	
Is the GC/MS tuning/performance check acceptable? Yes No	N/A
Are initial calibrations acceptable? Yes No	N/A
Are continuing calibrations acceptable? Yes No	N/A
Comments:	
4. BLANKS	
Were laboratory blanks analyzed? Yes No	N/A
Are laboratory blank results acceptable? Yes (No	N/A
Were field/trip blanks analyzed? Yes No	11/12
Are field/trip blank results acceptable? Yes No	N/A
Comments: Ne-n-butulattalett deterted in blank	,
Bullication in summarized in attachme	 _}*Z.
fample information not available, field OC rece	It
with he walusted in the summing report.	
BEHP was detected on quantilating report but but reported a	
5. ACCURACY Set Concentration swithin 110× such value.	13/1/24 4/1/34
Were surrogates/System Monitoring Compounds analyzed? Yes No	N/A
And	N/A
Home MC /MCD	N/A
And MC/MCD will be a series of the series of	N/A
Comments: The matrie MS/MSD remains were	•
therefore the MS/MSD annals	t. I
and receive on trails of the left of	
with over I I for a min of the	
rediniel -	<u> </u>
	
	
	 _
	

GC/MS ORGANIC DATA VALIDATION CHECKLIST

	RECISION	
Are MS	S/MSD RPD values acceptable? Yes	N
Are fi	eld duplicate RPD values acceptable? Yes	N
Are fi	eld split RPD values acceptable? Yes	N
Commer	its: Sample information inavailable of	4
QC.	results will be waluated in the or	<u>, , , , , , , , , , , , , , , , , , , </u>
seg	et.	
	-	
7. SY	STEM PERFORMANCE	
Were i	nternal standards analyzed? Yes	N
Are in	ternal standard areas acceptable? Yes	N
Are in	ternal standard retention times acceptable? Yes	N
Commen	ts:	
		_
8. CO	MPOUND IDENTIFICATION AND QUANTITATION	_
	pound identification acceptable?	N
	pound quantitation acceptable? Yes	N
	ts:	•••
		_
		_
· · · · · · · · · · · · · · · · · · ·		
9. RE	PORTED RESULTS AND QUANTITATION LIMITS	
	PORTED RESULTS AND QUANTITATION LIMITS sults_reported_for_all_requested_analyses?	- No
Are re	sults reported for all requested analyses? Yes	
Are re Are al	sults reported for all requested analyses?	No
Are re Are al Do res	sults reported for all requested analyses?	No No
Are re Are al Do res Has th	sults reported for all requested analyses? Yes 1 results supported in the raw data? Yes ults meet the CRQLs? Yes e laboratory properly identified and coded all TIC? Yes	No No
Are re Are al Do res Has th	sults reported for all requested analyses?	No No
Are re Are al Do res Has th	sults reported for all requested analyses? Yes 1 results supported in the raw data? Yes ults meet the CRQLs? Yes e laboratory properly identified and coded all TIC? Yes	No No No

SPG: 9 40/1, 205 COMMENTS: 2			I Schile	ly	DATE: 4/4/34	PAG	E <u>/OF/</u>
FIELD SAMPLE	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
309NTO	SVASIA	1/6/94	1/13/94	1/24/94	7	11 estroit	none
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BLANK AND SAMPLE DATA SUMMARY

SDG: 94014.	205-WES-1478	VALIDATO	ي: إ	/_/	chillt	DATE: 4/	14/94	PAGE.	
COMMENTS 🗻	lemivolatiles.			·					
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
56/k	Di-11-butylphthalate	50	1		Mg/kg		500	BOGDTO	-320 U
56/4	Di-11-buty/phthalate. Bis (2-274) Head) ATThalate	3.5			Mykg		35	BOSDTO	320 U 32 U 34
				ļ					7 5/
				<u> </u>		:			<i></i>
				<u> </u>					
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,							!		_

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

SBLK

WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 94LE0070-MB1

_____Sample wt/vol: <u>-30.0</u> -- (g/mL) G

Lab File ID: L012406

Level: (low/med) LOW

Date Received: 01/13/94

* Moisture: ____ decanted: (Y/N)__

Date Extracted: 01/13/94

Concentrated Extract Volume: 500(uL)

Date Analyzed: 01/24/94

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

CAS NO. COMPOUND

pH: <u>7.0</u>

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg

Q

	
51-28-52,4-Dinitrophenol	 840 ੮
100-02-74-Nitrophenol	840 U
132-64-9Dibenzofuran	330 0
121-14-22,4-Dinitrotoluene	330 0
84-66-2Diethylphthalate	330 0
7005-72-34-Chlorophenyl-phenylether	330 U
86-73-7Fluorene	330 0
100-01-64-Nitroaniline	840 U
534-52-14,6-Dinitro-2-methylphenol	840 U
86-30-6N-Nitrosodiphenylamine (1)	330 0
101-55-34-Bromophenyl-phenylether	330 0
118-74-1Hexachlorobenzene	330 0
87-86-5Pentachlorophenol	840 U
85-01-8Phenanthrene	330 U
120-12-7Anthracene	330 0
86-74-8Carbazole	330 0
84-74-2Di-n-butylphthalate	50 J
206-44-0Fluoranthene	330 U
129-00-0Pyrene	330 0
85-68-7Butylbenzylphthalate	330 0
91-94-13,3'-Dichlorobenzidine	330 U
56-55-3Benzo(a)anthracene	330 ប
218-01-9Chrysene	330 U
117-81-7bis(2-Ethylhexyl)phthalate	330 0
117-84-0Di-n-octyl phthalate	330 0
205-99-2Benzo(b) fluoranthene	330 U
207-08-9Benzo(k) fluoranthene	330 ប
50-32-8Benzo(a)pyrene	330 ប
193-39-5Indeno(1,2,3-cd)pyrene	330 0
53-70-3Dibenz(a,h) anthracene	330 0
191-24-2Benzo(g,h,i)perylene	330 0

(1) - Cannot be separated from Diphenylamine

FORM 1 SV-2

920 272 16

No	n/z Sc	an Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
58	NOT FOU	ND CIN						
. 59	NOT FOU							
60	NOT FOU	ND						
61	NOT FOU	ND						
62	NOT FOU	D						
63	NOT FOU	ND						
64	NOT FOU	ND						
65 ·	NOT FOU	ND CIN						
66	NOT FOU	ND						
67	NOT FOU					-		
6 8	NOT FOU	ND						
69	NOT FOU							/
70	149 12		4	1.070	A BB	9001 .	3.001 NG	0. 28 🗸
7 <u>1</u>	NOT FOU							•
72 -	NOT FOU							
73	NOT FOU							
74	NOT FOU							
75	NOT FOU							
r 76	NOT FOU							
77	149 14		5	0. 993	A BB	249.	0. 210 NG	0.02 BEHT
78	NOT FOU							20,00
79 80 81 82 83	NOT FOU							
B0	NOT FOU	ND						
31	NOT FOU	ND						
- 82	NOT FOU	ND		•			1 .	~\16\94
83	NOT FOU						1 .2 / 166	1.9/1-1
84	NOT FOU	ND					LING	
85	NOT FOU	ďD				2N	With I	
86	NOT FOU	מא				Ŋ	He LIMS - / 50	
							5B/K	
							5B/K	
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Mikday

0172

94535494 9452475B ATTACHMENT 41 Page 1 of 24

SEMIVOLATILES DATA VALIDATION SUMMARY FOR DATA PACKAGE: 9401L205-WES-1478 (923-E418)

MEMORANDUM

TO: 200-UP-2 Project QA Record

April 23, 1994

FR: Sandra Schildt, Golder Associates Inc.

RE: SEMIVOLATILES DATA VALIDATION-SUMMARY FOR DATA PACKAGE 9401L205-

WES-1478 (923-E418)

INTRODUCTION

This memorandum presents the results of data validation on data package 9401L205-WES-1478 prepared by Roy F. Weston, Inc. (Weston). A list-of-the samples-validated along with the analytes reported and the method of analysis is provided in the following table.

	·	· · · · · · · · · · · · · · · · · · ·	
SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSIS
B09DT0	1/06/94	SOIL.	SEE NOTE 1

Note 1: The samples were analyzed for CLP semivolatile target compound list (TCL) organics.

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 to this memo provide the following information:

Attachment 1. Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

This section presents a summary of the data quality in terms of the referenced validation criteria.

Precision. Goals for precision were met.

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met for all sample results as specified in the reference analytical method.

Revised 4-25-94 001

Completeness. The data package was complete for all requested analyses. One sample (1) was validated in this data set with a total of 64 determinations reported, all of which were deemed valid. This results in a completeness of 100% which meets normal work plan objectives of 90%.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

The following is a summary of the minor deficiencies identified during validation which required qualification of data.

Laboratory Blanks

• Di-n-butylphthalate and bis(2-ethylhexyl)phthalate were detected in the method blank. Attachments 2 and 5 provide a summary of the samples affected, data qualifications applied, and supporting documentation.

TENTATIVELY IDENTIFIED COMPOUND EVALUATION

Tentatively identified compounds (TICs) reported by the laboratory were evaluated during validation and qualified as follows:

- TICs were detected in the sample and identified as common laboratory contaminants, resulting in qualification of the results as unusable (R) as shown in Attachment 3.
 - TICs were detected in the sample and determined to be valid, resulting in qualification of the results as presumptive and valid (JN).

REFERENCES

WHC 1993a, Validation of 200-UP-2 Data, Statement of Work, Analytical Laboratory Data Validation Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993, Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 1 GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF ORGANIC DATA REPORTING QUALIFIERS

- B Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.
- - UJ Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.
 - J Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However in either case, the associated data should be considered usable for decision making purposes.
 - NJ Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
 - N Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC ---- analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
 - JN Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.
 - UJN- Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected due to associated blank contamination.
 - UR Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
 - R Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

----ATTACHMENT 2 SUMMARY OF DATA QUALIFICATIONS

DATA QUALIFICATION SUMMARY

_	\$6. 9401205-WES-1478	VALIDATOR:	DATE: 4/6/94	PAGE
	1	volatile		
	-COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
	Di-N-Butylehtha	late is	BOSITO	Compound detection
	Bist2-thyllieny Southalit		BOGETO	in About
				
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ATTACHMENT 3

QUALIFIED DATA SUMMARY AND ANNOTATED LABORATORY REPORTS

Validated Data Summary, Data Package: 9401L205-MES-1478

	Sапр#	B090T0	
	Date	1-6-94	
l I	Location		-
	Depth		-
!	Type	•••	-
:	Comments		-
Parameter	Units	Result	a
PHENOL	UG/KG	340,000	U
BIS(2-CHLOROETHYL)ETHER	UG/KG	340.000	U
2-CHLOROPHENOL	UG/KG	340.000	Ų
1,3-DICHLOROBENZENE	UG/KG	340.000	U
1,4-DICHLOROBENZENE	UG/KG	340.000	U
1,2-DICHLOROBENZENE	UG/KG	340,000	U
2-METHYLPHENOL	NG\KG	340.000	U
2,2'-OXYBIS(1-CHLOROPROPANE)	UG/KG	340.000	Ü
4-METHYLPHENOL	UG/KG	340.000	U
N-NITROSO-DI-N-PROPYLAMINE	UG/KG	340.000	U
HEXACHLORIDETHANE	UG/KG	340.000	U
NITROBENZENE	UG/KG	340.000	U
ISOPHORONE	UG/KG	340.000	U
2-NITROPHENOL	UG/KG	340.000	U
2.4-DIMETHYLPHENOL	UG/KG	340.000	U
BIS(2-CHLOROETHOXY)METHANE	UG/KG	340.000	U
2,4-DICHLOROPHENOL	UG/KG	340.000	U
1,2,4-TRICHLOROBENZENE	UG/KG	340.000	U
NAPHTHALENE	UG/KG	340.000	U
4-CHLOROANILINE	UG/KG	340.000	U
HEXACHLOROBUTADIENE	UG/KG	340.000	U
4-CHLORO-3-METHYLPHENOL	UG/KG	340.000	U
2-METHYLNAPHTHALENE	UG/KG	340.000	U
HEXACHLOROCYCLOPENTADIENE	UG/KG	340.000	U
2,4,6-TRICHLOROPHENOL	UG/KG	340.000	U
2,4,5-TRICHLOROPHENOL	UG/KG	840.000	U
2-CHLORONAPHTHALENE	UG/KG	340.000	U
2-NITROANILINE	UG/KG	840.000	U
DIMETHYLPHTHALATE	UG/KG	340.000	U
ACENAPHTHYLENE	UG/KG	340.000	U
3-NITROANILINE	UG/KG	840,000	Ū
ACENAPHTHENE	UG/KG	340.000	ŭ

Validated Data Summary, Data Package: 9401L205-WES-1478

Parameter 2,4-DINITROPHENOL 4-NITROPHENOL DIBENZOFURAN 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	Samp# Date Location Depth Type Comments Units UG/KG UG/KG UG/KG UG/KG UG/KG	Result 840.000 840.000 340.000 340.000	Q U U U U U U U U U U U U U U U U U U U
Parameter 2,4-DINITROPHENOL 4-NITROPHENOL DIBENZOFURAN 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	Location Depth Type Comments Units UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	Result 840.000 840.000 340.000 340.000 340.000 340.000 340.000	U U
Parameter 2,4-DINITROPHENOL 4-NITROPHENOL DIBENZOFURAN 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	Depth Type Comments Units UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	840.000 840.000 340.000 340.000 340.000	U U
Parameter 2,4-DINITROPHENDL 4-NITROPHENOL DIBENZOFURAN 2,4-DINITROTQLUENE 2,6-DINITROTQLUENE	Type Comments Units UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	840.000 840.000 340.000 340.000 340.000	U U
Parameter 2,4-DINITROPHENDL 4-NITROPHENOL DIBENZOFURAN 2,4-DINITROTQLUENE 2,6-DINITROTQLUENE	Units UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	840.000 840.000 340.000 340.000 340.000	U U
Parameter 2,4-DINITROPHENDL 4-NITROPHENOL DIBENZOFURAN 2,4-DINITROTQLUENE 2,6-DINITROTQLUENE	Units UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG	840.000 840.000 340.000 340.000 340.000	U U
2,4-DINITROPHENDL 4-NITROPHENOL DIBENZOFURAN 2,4-DINITROTQLUENE 2,6-DINITROTQLUENE	UG/KG UG/KG UG/KG UG/KG UG/KG	840.000 840.000 340.000 340.000 340.000	U U
4-NITROPHENOL DIBENZOFURAN 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	UG/KG UG/KG UG/KG UG/KG UG/KG	840.000 340.000 340.000 340.000	U
DIBENZOFURAN 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	UG/KG UG/KG UG/KG UG/KG	340.000 340.000 340.000	Ü
2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	UG/KG UG/KG UG/KG	340.000 340.000	
2,6-DINITROTOLUENE	UG/KG UG/KG	340.000	U
-	UG/KG		
		740 000	U
DIETHYLPHTHALATE	HOUSE	340.000	U
4-CHLOROPHENYL-PHENYLETHER	UG/KG	340.000	U
FLUORENE	UG/KG	340.000	Ų
4-NITROANILINE	UG/KG	840.000	U
4,6-DINITRO-2-METHYLPHENOL	UG/KG	840.000	U
N-NITROSODIPHENYLAMINE	UG/KG	340.000	U
4-BROMOPHENYL-PHENYLETHER	NG/KG	340.000	U
HEXACHLOROBENZENE	UG/KG	340.000	U
PENTACHLOROPHENOL	UG/KG	840.000	U
PHENANTHRENE	UG/KG	340.000	U
ANTHRACENE	UG/KG	340.000	U
CARBAZOLE	UG/KG	340.000	U
DI-N-BUTYLPHTHALATE	UG/KG	340.000	U
FLUORANTHENE	UG/KG	340.000	. ช
PYRENE	WG/KG	340.000	
BUTYLBENZYLPHTHALATE	UG/KG	340.000	U
3,31-DICHLOROBENZIDINE	UG/KG	340.000	U
BENZO(A)ANTHRACENE	UG/KG	340.000	U
BIS(2-ETHYLHEXYL)PHTHALATE	UG/KG	340.000	U
CHRYSENE	UG/KG	340.000	U
DI-N-OCTYLPHTHALATE	UG/KG	340.000	U
BENZO(B)FLUORANTHENE	UG/KG	340.000	U
BENZO(K)FLUORANTHENE	UG/KG	340.000	U
BENZO(A)PYRENE	UG/KG	340.000	U
INDENO(1,2,3-CD)PYRENE	UG/KG	340.000	U
DIBENZ(A,H)ANTHRACENE	UG/KG	340.000	U
BENZO(G, H, I)PERYLENE	ÚG/KG	340.000	Ū

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9401L205-001

Sample wt/vol: 30.2 (g/mL) G Lab File ID: L012408

Level: (low/med) LOW Date Received: 01/11/94

% Moisture: ____2 decanted: (Y/N) ___ Date Extracted: 01/13/94

Concentrated Extract Volume: 500 (uL) Date Analyzed: 01/24/94

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: $\underline{6.8}$

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

108-95-2Phenol	340 U
t11-44-4bis(2-Chloroethyl)ether	340 U
95-57-82-Chlorophenol	340 U
541-73-11,3-Dichlorobenzene	340 U
L06-46-7l,4-Dichlorobenzene	340 U
95-50-11,2-Dichlorobenzene	340 U
95-48-72-Methylphenol	340 U
108-60-12,2'-oxybis(1-Chloropropane)	340 U
.06-44-54-Methylphenol	340 U
521-64-7N-Nitroso-di-n-propylamine	340 U
7-72-1Hexachloroethane	340 U
98-95-3Nitrobenzene	340 U
8-59-1Isophorone	340 U
8-75-52-Nitrophenol	340 U
.05-67-92,4-Dimethylphenol_	340 U
11-91-1bis(2-Chloroethoxy)methane	340 ប
20-83-22,4-Dichlorophenol	340 ∪
.20-82-11,2,4-Trichlorobenzene	340 ប
1-20-3Naphthalene	340 U
.06-47-84-Chloroaniline	340 U
7-68-3Hexachlorobutadiene	340 U
9-50-74-Chloro-3-methylphenol	340 U
1-57-62-Methylnaphthalene	340 บ
7-47-4Hexachlorocyclopentadiene	340 U
8-06-22,4,6-Trichlorophenol	340 U
5-95-42,4,5-Trichlorophenol	840 U
1-58-72-Chloronaphthalene	340 U
8-74-42-Nitroaniline	840 U
31-11-3Dimethylphthalate	340 U
08-96-8Acenaphthylene	340 U
06-20-22,6-Dinitrotoluene	340 U
9-09-23-Nitroaniline	840 U
3-32-9Acenaphthene	340 Ŭ

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

	B09DT0		
- 1			

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9401L205-001

Sample wt/vol: 30.2 (g/mL) G Lab File ID: L012408

Level: (low/med) LOW

Date Received: 01/11/94

% Moisture: ____2 decanted: (Y/N)___

Date Extracted: 01/13/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/24/94

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: $(Y/N) \underline{Y}$ pH: $\underline{6.8}$

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) <u>ug/Kg</u>

	1	. .
51-28-52,4-Dinitrophenol	 840	 []
100-02-74-Nitrophenol	840	
132-64-9Dibenzofuran	340	!!
121-14-22,4-Dinitrotoluene	340	,
84-66-2Diethylphthalate	340	
7005-72-34-Chlorophenyl-phenylether	340	! '
86-73-7Fluorene	340	•
100-01-64-Nitroaniline	840	
534-52-14,6-Dinitro-2-methylphenol	840	
86-30-6N-Nitrosodiphenylamine (1)	340	. ,
101-55-34-Bromophenyl-phenylether	340	
118-74-1Hexachlorobenzene	340	. ,
87-86-5Pentachlorophenol	840	
85-01-8Phenanthrene	340	
120-12-7Anthracene	340	
86-74-8Carbazole	340	,
84-74-2Bi-n-butylphthalate	340 3-20	
206-44-0Fluoranthene	340	
129-00-0Pyrene	340	•
85-68-7Butylbenzylphthalate	340	,
91-94-13,3'-Dichlorobenzidine	340	•
56-55-3Benzo(a)anthracene	340	
218-01-9Chrysene	340	,
117-81-7bis(2-Ethylhexyl)phthalate	-340-22	
117-84-0Di-n-octyl phthalate	340	
205-99-2Benzo(b) fluoranthene	340	
207-08-9Benzo(k) fluoranthene	340	
50-32-8Benzo(a)pyrene	340	•
193-39-5Indeno(1,2,3-cd)pyrene	340	•
53-70-3Dibenz(a,h)anthracene	340	
191-24-2Benzo(g,h,i)perylene	340	

Cannot be separated from Diphenylamine

FORM 1 SV-2

3/90

TENTATIVELY IDENTIFIED COMPOUNDS

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BO9DTO

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 9401L205-001

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: L012408

Level: (low/med) LOW

Date Received: 01/11/94

* Moisture: 2 decanted: (Y/N) Date Extracted: 01/13/94

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 01/24/94

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: <u>6.8</u>

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Number TICs found: 6

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	 0	
38102022222222	=======================================			 =====	i .
1.	UNKNOWN	6.00	70	سور ا	JA
2.	ALDOL CONDENSATE	6.30	100	JА	R
3.	ALDOL CONDENSATE	7.37	200	سيهتد	R
4.	ORGANIC ACID	16.13		•	JN
5.	PHOSPHATE	23.68	400	-TE	JN
6.	UNKNOWN	26.75		!	SN
		ļ		į	

ATTACHMENT 4

LABORATORY NARRATIVE AND CHAIN-OF-CUSTODY DOCUMENTATION

2012 2021

ROY F. WESTON, INC. LIONVILLE ANALYTICAL LABORATORY ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD

W.O. #: 06168-002-001-9999-00

RFW #: 9401L205

Date Received: 01-11-94

SEMIVOLATILE

One (1) soil sample was collected on 01-06-94.

The sample and its associated QC samples were extracted on 01-13-94, 02-14-94 and analyzed according to criteria set forth in CLP SOW 3/90 for TCL Semivolatile target compounds on 01-24-94, 02-15-94.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

- 1. Non-target compounds were detected in these samples.
- 2. —All surrogate recoveries were within EPA QC limits.
- 3.——All matrix spike recoveries were within EPA QC limits.

A matrix spike and a matrix spike duplicate for sample B09DT0 were extracted, in hold in batch 94LE0070; however there were several low recoveries in the matrix spike and consequently several RPD limits were exceeded. The MS and MSD were re-extracted out of hold and only the second set of spikes were reported; the first set of MS/MSD data is available upon client request.

- 4. All blank spike recoveries were within EPA QC limits.
- 5. The laboratory blank 94LE0070-MB1 contained the common contaminant Di-n-butylphthalate at a level less than the CRQL. The laboratory blank 94LE0305-MB1 contained the common contaminants Di-n-butylphthalate at a level less than 4x the CRQL, Butylbenzylphthalate at a level less than 3x the CRQL, and Bis(2-ethylhexyl)phthalate at a level less than the CRQL.
- 6. All internal standard area and retention time criteria were met.

J. Peter Hershey, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

03.01 94.

Date

/dlc/bna/01-205b.cn

- 4/11/24

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Westinghout C	
Custody Form	ı Init
Company Cont	act
Project Desi	ignat i
	o
Bill of Ladi	ing/Ai
Method of Sh	i pmen
Shi pped to	<u>₩</u>
Possible San	note H
– <u></u>	
1) BO92 1,500 1,125)m l
1,123 1,250 1,125)mta)mi
1,250)ml
P 1000	mit P70 Eu 23
(2)	.,
1,500	ingl G
1,500 1,250	ml
1,125	imi P/

CHAIN	OF	CUSTODY
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Hanford Company		CHAIN OF CUSTODY		
Custody Form Initiator	L E ROGERS	WU SETZEY		
Company Contact LE	ROGERS		Telephone 376-76	90
Project Designation/Samp	ling Locations	200-UP-2	Collection Date	1.6.94
	5-11		-	EFL-1091
Bill of Lading/Airbill No	. NA		Offsite Property No.	2111 19701
	RNIGHT AIR	SERVICE		<u> </u>
- Shipped to WESTON	· · -			
Possible Sample Hazards/	Remarks Keep	samples at 4C (SOIL)	RADIDACTI	UF
		Sample Identificati		05.001
1,125ml Gs:VOA Cl 1,500ml aG:Semi-1 1,25ml G:Anions 1,125ml G:Cyanions 1,1000ml P/G:Gross Eu-154,Eu 239/240 (109) Se-7 1,500ml P:CLP;74 1,25ml Gs:VOA Cl 1,500ml G:Anions 1,250ml G:Anions 1,250ml P/G:Anions 1,250ml P/G:Gross Eu-154,Eu- 239/240 (Pl	LP VOA CLP s F,Cl,SO4 (EPA 3) de CLP alpha/beta (PRO155,K-40,Ru-106 PRO-052-32) Sr-9 AL Metals,Hg,Ti LP VOA CLP s F,Cl,SO4 (EPA 3) de CLP alpha/beta (PRO- alpha/beta (PRO- alpha/beta (PRO- alpha/beta (PRO- 155,K-40,Ru-106,IRO-052-32) Sr-90	33.1) 032-15), Gamma Spec to including Na-22 (PRO-042-5), U-235,U-2 0 (PRO-032-38,PRO-032-25) Tc-	34,U-238 (PRO-052-32) Np-237 99 (PRO-032-78) Am-241,Cm-24 de,Cs-134,Cs-137,Co-60,Eu-15 4.U-238 (PRO-052-32) Np-237	7,(PRO-042-5) Pu-238,Pu- 44 (PRO-052-32 or PRO-062- 2, (PRO-042-5) Pu-238 Pu-
109) Se-79		To the state of th		
3)	AL Metals,Hg,Ti	JEK.	1-10-94	
1,125ml Gs:VOA CI 1,500ml aG:Semi- 1,250ml G:Anion: 1,125ml P/G:Anion: 1,250ml G:Cyanio: 1,1000ml P/G:Gross Eu-154,Eu-	LP VOA CLP s F,C1,SO4 (EPA : s NO2,NO3 (EPA 3! de CLP _a(pha/beta (PRO- 155,K-40,Ru-106,)		de,Cs-134,Cs-137,Co-60,Eu-15	(PRO-042-5) PN-238 Pir-
[] Field Transfer o	f Custody	Chain of Possession		(Sign and Print Names)
Relinguished by: July	-H15 1-12-94	Received by: Borols	Date/Time: 1-6-94	1115
Relinquished by:	1-15-94	Received by:	Oate/Time:	
JAME HODELL	0715	4.0. Sety	1-10-94	0715
Relinquished by:	• • • • • • • • • • • • • • • • • • • •	Received by:	Date/Time:	
Relinquished by:		Received by:	Date/Time:	
FIDEX.		31	1-11-94	9/30
		Final Sample Disposi		
Disposal Method:		Disposed by:	Date/Time:	
Continents:		·		
	· · · · · · · · · · · · · · · · · · ·			

DATA VALIDATION SUPPORTING DOCUMENTATION

	uc/ris	URGANIC DATA	TALIDATION CO	CKLIST /	1111/11/11/11/11/11/11/11/11/11/11/11/1
VALIDATION LEVEL:	A	В	С		E
PROJECT: 6	200-UP-	2	DATA PACKAGE	: 94011,205	WES-1478
1	Schold	N .	_	DATE: 4/4	194
CASE:NA			SDG: NA		
	,	ANALYSES	PERFORMED		
☐ CLP Volatiles	SW-846 8240 (cap column)	☐ SW-846 8260 (packed column)	CLP Semivolatiles	☐ SW-846 8270 (cap column)	SW-846
	0 -	0	0		
SAMPLES/MATE	IIX B0907	0/soil			
		· · · · · · · · · · · · · · · · · · ·		····	
	<u>2 - 1 -</u>	- -			
					-
	· 				
1. DATA PACK Is technical Is a case nar Comments:	rative presen	documentation			es No N/A es No N/A
2. HOLDING T Are sample ho Comments:	lding times a	cceptable? .	• • • • •	· · · · · (Ý	es No N/A

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3. INSTRUMENT TUNING AND CALIBRATION
Is the GC/MS tuning/performance check acceptable? Yes No N/A
Are initial calibrations acceptable?
Are continuing calibrations acceptable? Yes. No N/A
Comments:
4. BLANKS
Were laboratory blanks analyzed? Yes No N/A
Are laboratory blank results acceptable? Yes No N/A
Were field/trip_blanks_analyzed? Yes No MA
Are field/trip blank results acceptable? Yes No N/A
Comments: Di-n-butylettalete deterted in blank
Buchtication in summerized in attachment
Lample information not available, Suld QC results
will be evaluated in the summer report
BEHP - Att the authorized the
5. ACCURACY Songtonicatration Swithin 110× south value. 11/1/2
Were surrogates/System Monitoring Compounds analyzed? Yes No N/A
Are surrogate/System Monitoring Compound recoveries acceptable? Yes No N/A
Were MS/MSD samples analyzed? Yes No N/A
Are MS/MSD results acceptable? Yes No N/A
Comments: The united MS/MSD responses were form
thereby the MS/MSD namales were sometracted
and rerun outside of the holding time
with origitable recoveries. n. Jarable cata
required

WHC-SD-EN-SPP-002, Rev. 2

GC/MS ORGANIC DATA VALIDATION CHECKLIST

6.	PRECISION
Ar	e MS/MSD RPD values acceptable?
Ar	e field duplicate RPD values acceptable? Yes
Ar	e field split RPD values acceptable? Yes
	ments: Sample information unavailable of
.(26 results will be walnated in the o
	enant
_	
- 7.	SYSTEM PERFORMANCE
We	re internal standards analyzed?
Ar	e internal standard areas acceptable? Yes
	e internal standard retention times acceptable?
	nments:
8.	COMPOUND IDENTIFICATION AND QUANTITATION
Is	compound identification acceptable? Yes
	compound quantitation acceptable? Yes
	nments:
	REPORTED RESULTS AND QUANTITATION LIMITS
	e_results reported for all requested analyses? Yes
Are	e all results supported in the raw data?(Yes)
	modults most the CDOL-2
Do	results meet the CRQLs?
Do	
Do Ha	the laboratory appropriate dentify to the last tree
Do Ha	the laboratory properly identified and coded all TIC? , Yes
Do Ha	the laboratory properly identified and coded all TIC? , Yes

HOLDING TIME SUMMARY

PR: 9 401205	-WES-1478	VALIDATOR:	I Schild	ld .	DATE: 4/4/94	PAG	E <u>/</u> 0F <u>/</u>
COMMENTS:	emivola	Tile	·				
FIELD SAMPLE	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BO9NTO	SVOANIN	1/6/94	1/13/94	1/24/94	7	11 estract	none
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			~ ~~				
							

BLANK AND SAMPLE DATA SUMMARY

			1	6.5					
-SDG: 44012	205-WES-1478	VALIDATO	راعر: R	1 st	hillt	DATE: 4/	4/94	PAGE	
COMMENTS :	Semivolatiles								
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES Affected	QUALIFIER
56/k	Di-10-buty/phthalate Bis (2- JUNHERY) phthalate	50	J		ng/k-		500	BOGDTO	-320 U
56/4.	Bis (2- Stadkery) phitholote	3.5	ļ		115/4.5		35	1309010	320 U 22 U 34
				<u> </u>			<u> </u>		75/
								<u> </u>	
			<u> </u>						
				·					
						:			
							· · · · · · · · · · · · · · · · ·		
					<u> </u>				
				<u> </u>					
							·		

CLIENT	SAMPLE	NO.
--------	--------	-----

SBLK			
		•	

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client:

WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL

Lab Sample ID: 94LE0070-MB1

Sample wt/vol: <u>30.0</u>

(g/mL) <u>G</u>

Lab File ID:

L012406

Level:

(low/med) LOW

Date Received: 01/13/94

% Moisture: ____

Concentrated Extract Volume: 500 (uL)

Date Extracted: 01/13/94

decanted: (Y/N)___

Date Analyzed: 01/24/94

330 U

330 U

840 U

330 0

330 U

330 U

50 J

330 U

330|0

330 U

330 U

330 U

330 U

330 U

330 | U

330 U

330 | ប

330 | U

330 U

330 | ប

330 U

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH:

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Q

CAS NO.

COMPOUND

51-28-5----2,4-Dinitrophenol 840 U 100-02-7----4-Nitrophenol 840 U 132-64-9-----Dibenzofuran_ 330 U 121-14-2----2,4-Dinitrotoluene 330 T 84-66-2-----Diethylphthalate 330 U 7005-72-3----4-Chlorophenyl-phenylether_ 330 U 330 U | 100-01-6-----4-Nitroaniline 840 U 534-52-1-----4,6-Dinitro-2-methylphenol_ 840 U 86-30-6-----N-Nitrosodiphenylamine (1) 330 | U

85-01-8-----Phenanthrene 120-12-7-----Anthracene_ --|-86-74-8-----Carbazole 84-74-2----Di-n-butylphthalate 206-44-0-----Fluoranthene

118-74-1-----Hexachlorobenzene

† 87-86-5-----Pentachlorophenol

| 129-00-0-----Pyrene

101-55-3----4-Bromophenyl-phenylether

91-94-1-----3,3'-Dichlorobenzidine | 56-55-3-----Benzo(a)anthracene_ | 218-01-9-----Chrysene

85-68-7-----Butylbenzylphthalate

117-81-7-----bis(2-Ethylhexyl)phthalate | 117-84-0-----Di-n-octyl phthalate 205-99-2----Benzo(b) fluoranthene

207-08-9-----Benzo(k) fluoranthene | 50-32-8-----Benzo(a)pyrene_

193-39-5----Indeno(1,2,3-cd)pyrene 53-70-3-----Dibenz(a,h)anthracene | 191-24-2----Benzo(g,h,i)perylene_

(1) - Cannot be separated from Diphenylamine FORM 1 SV-2

3/90

. No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
58	NOT	FOUND							
59	NOT	FOUND							
60	NOT	FOUND					•		
61	NOT	FOUND							
62	NOT	FOUND							
63	NOT	FOUND							
64	NOT	FOUND							
65	NOT	FOUND							
66		FOUND						•	
67		FOUND							
68		FOUND							
69		FOUND					•		,
70	149	1208	20:08	4	1. 070	A BB	9001.	3. 001 NG	0. 28 V
71		FOUND	40.00	•				G. 002 110	V. 20 /
72		FOUND						•	
73		FOUND							
74		FOUND					•		
75		FOUND					•		
, o 76		FOUND							•
	149-	1467°	24: 27	5 -	Ŏ. 993	A BB	249.	0. 210 NG	0.02 BFHT
77- CC 78	NOT:	FOUND		•	0. 773	N 25		0. 210 110	U. UZ DJ-797-
* 70		FOUND							
2700		FOUND							
79 80 81		FOUND							
** 0.3 (****** 0.1		FOUND						1	1. 1011
82 83		FOUND						160	2/16/49
84		FOUND						11115	
8 5		FOUND						har 1	
		FOUND					5/4	Ar-	
86	NUI	FOUND			* • *		-1		
							,	Jul 12145- 1600 5B/K	
					. –		·	DNIN	
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94535496 94524750 ATTACHMENT 42 Page 1 of 19

VOLATILES DATA VALIDATION SUMMARY FOR DATA PACKAGE: 9401L205-WES-1478 (923-E418)

MEMORANDUM

TO: 200-UP-2 Project QA Record

April 23, 1994

FR: Sandra Schildt, Golder Associates Inc.

RE: VOLATILES DATA VALIDATION SUMMARY FOR DATA PACKAGE 9401L205-

WES-1478 (923-E418)

INTRODUCTION

This memorandum presents the results of data validation on data package 9401L205-WES-1478 prepared by Roy F. Weston, Inc. (Weston). A list of the samples validated along with the analytes reported and the method of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSIS
B09DT0	1/00/71	SOIL	SEE NOTE 1

Note 1: The samples were analyzed for CLP volatile target compound list (TCL) organics.

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 to this memo provide the following information:

Attachment 1. Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

This section presents a summary of the data quality in terms of the referenced validation criteria.

Precision. Goals for precision were met.

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met for all sample results as specified in the reference analytical method.

Revised # 9-25-94 001

Completeness. The data package was complete for all requested analyses. One sample (1) was validated in this data set with a total of 33 determinations reported, all of which were deemed valid. This results in a completeness of 100% which meets normal work plan objectives of 90%.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

No minor deficiencies were identified during validation which required qualification of data.

REFERENCES

WHC 1993a, Validation of 200-UP-2 Data, Statement of Work, Analytical Laboratory Data Validation Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993, Westinghouse Hanford Company, Richland, Washington.

--- ATTACHMENT 1

GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF ORGANIC DATA REPORTING QUALIFIERS

- B Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.
- U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample quantitation limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ -- Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.
- J Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However in either case, the associated data should be considered usable for decision making purposes.
- NJ Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data).

 The associated data should be considered usable for decision making purposes.
- N Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- JN Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.
- UJN- Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected due to associated blank contamination.
- UR Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
- R Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

ATTACHMENT 2 SUMMARY OF DATA QUALIFICATIONS

DATA QUALIFICATION SUMMARY

9401L205-WES-1478	VALIDATOR:	DATE: 4/4/94	PAGE / OF /
COMMENTS: Volas	iles		
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Ma q	nalification	i riquire	
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ATTACHMENT 3

QUALIFIED DATA SUMMARY AND ANNOTATED LABORATORY REPORTS

Validated Data Summary, Data Package: 9401L205-WES-1478

	Samp#	809010	
	Date	1-6-94	
	Location		-
ļ	Depth		-
	Туре		-
	Comments		-
1	} -		
Parameter	Units	Resul t	Q
CHLOROMETHANE	UG/KG	10.000	U
BRONOMETHANE	UG/KG	10.000	U
VINYL CHLORIDE	UG/KG	10.000	U
CHLOROETHANE	UG/KG	10.000	U
METHYLENE CHLORIDE	UG/KG	10.000	U
ACETONE	UG/KG	10.000	U
CARBON DISULFIDE	UG/KG	10.000	U
1,1-DICHLOROETHENE	UG/KG	10.000	U
1,1-DICHLOROETHANE	UG/KG	10.000	Ų
1,2-DICHLOROETHENE (TOTAL)	UG/KG	10.000	U
CHLOROFORM	UG/KG	10.000	Ü
1,2-DICHLOROETHANE	UG/KG	10.000	Ū
2-BUTANONE	UG/KG	10.000	U
1,1,1-TRICHLOROETHANE	UG/KG	10.000	ıU
CARBON TETRACHLORIDE	UG/KG	10.000	· U
BROMOD I CHLIDROMETHANE	UG/KG	10.000	U
1,2-DICHLOROPROPANE	UG/KG	10,000	U
CIS-1.3-DICHLIDROPROPENE	UG/KG	10.000	U
TRICHLOROETHENE	UG/KG	10.000	U
DIBROMOCHLOROMETHANE	UG/KG	10.000	Ü
1,1,2-TRICHLOROETHANE	UG/KG	10,000	U
BENZENE	UG/KG	10.000	U
TRANS-1,3-DICHLOROPROPENE	UG/KG	10.000	Ū
BROMOFORM	UGi/KG	10,000	Ū
4-METHYL-2-PENTANONE	UG/KG	10.000	Ū
2-HEXANONE	UG/KG	10.000	Ū
TETRACHLOROETHENE	UG/KG	10.000	Ŭ
1,1,2,2-TETRACHLOROETHANE	UG/KG	10.000	Ū
TOLUENE	UG/KG	10.000	ŭ
CHLOROBENZENE	UG/KG	10.000	ŭ
ETHYLBENZENE	UG/KG	10.000	Ü
STYRENE	UG/KG	10.000	Ū.
XYLENES (TOTAL)	UG/KG	10.000	Ü
ATTENDE (TOTAL)	20, 10		

B09DT0

Lab Name: Roy F. Weston, Inc. Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Lab Sample ID: 94011205-001 Matrix: (soil/water) SOIL

Lab File ID: 0011312 Sample wt/vol: <u>5.00</u> (g/mL) <u>G</u> Level: (low/med) LOW ___ Date Received: 01/11/94

% Moisture: not dec. ____2 Date Analyzed: <u>01/13/94</u>

GC Column: <u>\$P1000</u> ID: 2.00 (mm)Dilution Factor: 1.00

Soil Aliquot Volume: (uL) Soil Extract Volume: (uL)

> CONCENTRATION UNITS: CAS NO. **COMPOUND** (ug/L or ug/Kg) ug/Kg

74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	Ū
75-01-4	Vinyl Chloride	l ĪÓ	Ū
	Chloroethane	10	Ü
75-09-2	Methylene Chloride	10	
57-64-1	Acetone	10	-
75-15-0	Carbon Disulfide	10	_
/5_35_4	1 1-Dichloroethene	10	Ü
/5-34-3	l l-Dichlornethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
57-6 6- 3 <u>-</u> -	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	
78-93-3	2-Butanone	ĨŎ	
	1,1,1-TrichToroethane	10	
6-23-5	Carbon Tetrachloride		ŭ
5-27-4	Bromodichloromethane	· 10	_
	1,2-Dichloropropane	T 1 1	Ü
0061-01-5	cis-1,3-Dichloropropene	10	_
9-01-6	Trichloroethene	T 7 1	Ü
24-48-1	Dibromochloromethane	10	•
9-00-5	1,1,2-Trichloroethane	10	-
1-43-2	Renzene	10	_
	Trans-1,3-Dichloropropene	10	_
5-25-2	Bromoform	10	_
	4-Methyl-2-pentanone	10	_
91-78-6	2-Hexanone	10	
27-18-4	Tetrachloroethene		U
9-34-5	1,1,2,2-Tetrachloroethane	10	_
08-88-3	Tolueno	10	•
	Chlorobenzene		_
00 30 /	Ethylbenzene	10	_
00-42-5	Strees	10	-
.99-96-3 220-20-7	styrene	10	•
330-20-/	Xylene (total)	10	U

FORM 1 VOA

3/90

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1	
	BO9DTO
ľ	

CLIENT SAMPLE NO.

Lab Name: Roy F.-Weston, Inc. -Work Order: 06168002001

Client: WESTINGHOUSE HANFORD

Matrix: (soil/water) SOIL Lab Sample ID: 9401L205-001

Sample wt/vol: $\underline{5.00}$ (g/mL) \underline{G} Lab File ID: $\underline{0011312}$

Level: (low/med) LOW _____ Date Received: 01/11/94

% Moisture: not dec. ___2 Date Analyzed: <u>01/13/94</u>

GC Column: SP1000 ID: 2.00(mm) Dilution Factor: 1.00

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER COMPOUND NAME RT EST. CONC. Q

FORM I VOA-TIC

3-28 Illing

3/90

-010

ATTACHMENT 4

LABORATORY NARRATIVE AND CHAIN-OF-CUSTODY DOCUMENTATION



ROY F. WESTON, INC. LIONVILLE ANALYTICAL LABORATORY ANALYTICAL CASE NARRATIVE

Client: WESTINGHOUSE HANFORD

W.O. #: 06168-002-001-9999-00

RFW #: 9401L205

Date Received: 01-11-94

GC/MS VOLATILE

One (1) soil sample was collected on 01-06-94.

The sample and its associated QC samples were analyzed according to criteria set forth in CLP SOW 03/90 for TCL Volatile target compounds on 01-13,14-94.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

- 1. Non-target compounds were not detected in these samples.
- 2. All system monitoring compound (surrogate) recoveries were within EPA QC limits.
- 3. All matrix spike recoveries were within EPA QC limits.
- 4. The laboratory blanks contained the common contaminant Acetone at levels less than 3x the CRQL.
- 5. All internal standard area and retention time criteria were met.

6. Sample pH information has been reported in Section XI (Preparation Logs).

J. Peter Hershey, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

Date

sma/voa/01-205v.cn

012

				94011205
Westinghouse Hanford Company		CHAIN	OF CUSTODY	,
Custody Form Initiator	L E ROGERS	WU SETJEY		
Company Contact LE	ROGERS		Telephone 376-	7690
Project Designation/Samp	ling Locations	200-UP-2	Collection Date	-7690
Ice Chest No.	<-11_		Field Lagbaak No.	EFL-1091
Bill of Lading/Airbill N	o. <u>NA</u>		Offsite Property N	o. Orsr 17596
Method of Shipment OVE	RNIGHT AIR	SERVICE		•
shipped to WESTON				
Possible Sample Hazards/	Remarks Keep	samples at 40 (SOIL)	RADIDACT	IUE
-	·	Sample Identificat	nion 940/L	205-001
1,125mt Gs:VOA CI 1,500mt GG:Semi- 1,250mt G:Anion: 1,125mt G:Cyani 1,1000mt P/G:Gross Eu-154,Eu 239/240 (109) Se-7 1,500mt P:CLP;T. 1,755mt Gs:VOA C 1,500mt G:Anion: 1,250mt G:Anion: 1,250mt G:Cyani 1,250mt G:Cyani 1,250mt G:Cyani 1,1000mt P/G:Gross Eu-154,Eu-	LP VOA CLP s F,Cl,SO4 (EPA 3 s NO2,NO3 (EPA 3 de CLP alpha/beta (PRO- 1-155,K-40,Ru-106 PRO-052-32) Sr-5 9 AL Metals,Hg,Ti LP VOA CLP s F,Cl,SO4 (EPA 3 dO2,NO3 (EPA 3 dO2	300.0) 53.1) -032-15), Gamma Spec to includ, Na-22 (PRO-042-5), U-235,U-20 (PRO-032-38,PRO-032-25) To 300.0) 53.1) -032-15), Gamma Spec to include Na-22 (PRO-042-5), U-235,U-2	234,U-238 (PRO-052-32) Np- -99 (PRO-032-78) Am-241,Cm ude,Cs-134,Cs-137,Co-60,Eu 34,U-238 (PRO-052-32) Np-2 79 (PRO-032-78) Am-241,Cm-	237,(PRO-042-5) Pu-238,Pu244 (PRO-052-32 or PRO-062152, 37,(PRO-042-5) Pu-238 Pu-
1,125ml Gs:VOA CI 1,500ml aG:Semi- 1,250ml G:Anion 1,125ml P/G:Anion 1,250ml G:Cyani 1,250ml G:Cyani 1,1000ml P/G:Gross Eu-154,Eu-	VOA CLP s F,Cl,SO4 (EPA s NO2,NO3 (EPA 3 de CLP alpha/beta (PRO 155,K-40,Ru-106,	53.1) -032-15), Gamma Spec to inct Na-22 (PRO-042-5), U-235,U-2	ude, Cs - 134, Cs - 137, Co - 60, Eu 34, U- 238 (PRO-052-32) No-2	37 (PRO-042-5) Pre-238 Pu-
[] Field Transfer o	f Custody	CHAIN OF CUSTODY ROGERS (A) (1) SETECT S		
Relinguished by: 10.0. Setsee	111 5 1:1 ₂ :94	11/1-	Date/Time:	1 1115
Relinquished by:	1-1694 you	Received by: (4.0 Setre	· · · · · · · · · · · · · · · · · · ·	4 0715
Relinguished blue		Received by:	Date/Time:	

Received by:

Disposed by:

Final Sample Disposition

A-6000-407 (12/90) (EF) WEFD61 Chain of Custody

Relinquished by: Z

FLIDEX

Disposal Method:

Comments:

Date/Time:

Date/Time:

1-11-94 9130

ATTACHMENT 5 DATA VALIDATION SUPPORTING DOCUMENTATION

WHC-SD-EN-SPP-002, Rev. 2

	GC/MS	ORGANIC DATA	VALIDATION CH	ECKLIST	H11/194
VALIDATION LEVEL:	- A	- B	C .		(E)
PROJECT: 2	00-UP-2		DATA PACKAG	E: 4401205	-WES-1478
VALIDATOR:	1 Schold	LAB: West	ton	DATE: 4/4	/94
LEVEL: PROJECT: 200-11-2 VALIDATOR: Solution LAB: Western DATE: 4/4/9 CASE: NA SDG: NA ANALYSES PERFORMED CLP Volatiles SW.848 8240 Cep column) Cpecked column) Semivoletiles Cap column Cpecked Column	-				
		ANALYSES	PERFORMED		
CLP Volatiles		1 - ' '			SW-848 (packed column)
	0		0		a
SAMPLES/MATI	RIX B0907	0/soil			
	-				
				-	
Is technical Is a case nar	verification rrative presen	documentation	present? .		
Are sample ho	olding times a			<u>(</u> Y	es No N/A
					

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3. INSTRUMENT TUNING AND CALIBRATION		
Is the GC/MS tuning/performance check acceptable? Yes	No	N/A
Are initial calibrations acceptable? Yes	No	N/A
Are continuing calibrations acceptable? Yes	No	N/A
Comments:		
		
		
4. BLANKS		
Were laboratory blanks analyzed? Yes	No	N/A
Are laboratory blank results acceptable? Yes	No	N/A
Were field/trip blanks analyzed? Yes	No	(N/A)
Are field/trip blank results acceptable? Yes -		(N/A)
Comments: Sample information was not sound	/_	
Fuld OC sample will be welleted in		Line.
summary report.		
October detected in lab blank but no	J.	Tink
in sample results in qualification		
5. ACCURACY		
Were surrogates/System Monitoring Compounds analyzed? Yes	No	N/A
Are surrogate/System Monitoring Compound recoveries acceptable? Tes	No	N/A
Were MS/MSD samples analyzed? Yes	No	N/A
Are MS/MSD results acceptable? Yes	No	N/A
Comments:		,
		 "
	•	

WHC-SD-EN-SPP-002, Rev. 2

GC/MS ORGANIC DATA VALIDATION CHECKLIST

6. PRECISION	
Are MS/MSD RPD values acceptable? Yes N	lo N/A
Are field duplicate RPD values acceptable? Yes N	lo (N/A
Are field split RPD values acceptable? Yes N	lo (N/A)
Comments: Nample information was not available. Free	21 QC
wently will the waluated in the summary in	72e St.
7. SYSTEM PERFORMANCE	
Were internal standards analyzed? Yes N	lo N/A
Are internal standard areas acceptable? Yes N	lo N/A
Are internal standard retention times acceptable? Yes N	o N/A
Comments:	
	-
	
8. COMPOUND IDENTIFICATION AND QUANTITATION	
Is compound identification acceptable? Yes N	o N/A
	o N/A
	e de
contration > 1 45/4 but the EIC was not included	
with arione of in 72 which is received for an	and the second
intellication Ma analytication required. Cil	
month of son it has we detecto	
9. REPORTED RESULTS AND QUANTITATION LIMITS	
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HOLDING TIME SUMMARY

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FIELD SAMPLE	ANALÝSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
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